Mayor
Honorable
Rob Wheeler

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CITY OF HAPPY VALLEY
STAFF REPORT TO THE PLANNING COMMISSION

JANUARY 27, 2009

COMPREHENSIVE PLAN MAP/ZONING MAP AMENDMENTS, COMPREHENSIVE PLAN TEXT AMENDMENTS AND TSP UPDATE ASSOCIATED WITH THE EAST HAPPY VALLEY COMPREHENSIVE PLAN (EHVCP)

FILE NO. CPA-01-09

The following staff report and exhibits have been prepared based partially on information and premises from the Damascus-Boring Concept Plan and the Pleasant Valley Concept Plan, and have been funded in part by grants from the State of Oregon Transportation and Growth Management (TGM) Program.

I. GENERAL INFORMATION:

APPLICABLE CRITERIA:

Applicable Statewide Planning Goals; Divisions 7, 9 and 12 of the Oregon Administrative Rules; Titles 3, 4, 11 and 13 of Metro Chapter 3.07 (Urban Growth Management Functional Plan); applicable conditions from "Exhibit M" of Metro Ordinance No. 02-969B; applicable Goals and Policies from the City of Happy Valley Comprehensive Plan; and, applicable Sections of Title 16 (Development Code) of the City of Happy Valley Municipal Code, including §16.40.020 (Initiation of a plan amendment), §16.40.040 (Public hearing and notice), and §16.40.041 (Review criteria).

EXHIBITS:

A. Staff Report and Findings of Fact
B. City of Happy Valley Existing Comprehensive Plan Map/Zoning Map
C. Damascus-Boring Concept Plan Map
D. METRO Title 4 Design Types Map (Excerpt)
E. METRO 2040 Plan Map (Excerpt)
F. Pleasant Valley Concept Plan Map (Excerpt)
G. Rock Creek Comprehensive Plan - Land Use Plan
H. Draft East Happy Valley Comprehensive Plan Map
I. Draft Happy Valley Steep Slopes and Natural Resource Overlay Zone Map
J. Draft Comprehensive Plan Text Amendments
K. City of Happy Valley Draft Transportation System Plan dated December, 2008

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EXHIBIT A

L. Memorandum from DKS Associates regarding 2035 Traffic Analysis dated November 28, 2008
M. Memorandum from DKS Associates regarding Scouters Mountain Roadway Phasing dated October 23, 2008
N. Memorandum from Otak regarding East Happy Valley Buildable Lands and Residential Capacity Analysis dated December 9, 2008
O. Clackamas County Service District No. 1 Sanitary Sewer Master Plan and Surface Water Master Plans for Rock and Richardson Creek Watersheds (Excerpts)
P. Sunrise Water Authority Master Plan (Excerpt)
Q. North Clackamas School District documents
R. Centennial School District documents
S. North Clackamas Parks District East Happy Valley Proposed Parks & Trails Plan and supporting documents
T. Letter from Jennifer Donnelly, Oregon DLCD Metro Regional Representative dated January 12, 2009
U. DLCD Response Letter from Staff, dated January 18, 2009
V. Letter from Bill & Gracie Brown dated December 6, 2008
W. Letter from George Beall dated January 15, 2009
X. Letter from Matt Grady, Gramor Development dated January 16, 2009
Y. Letter from Matt Grady, Gramor Development dated January 16, 2009
Z. Letter from James Jordan dated January 16, 2009
AA. Measure 56 Notice
BB. Published Notice

BACKGROUND:

The East Happy Valley Comprehensive Plan (EHVCP) area is comprised of approximately 2,100 acres of land that was included in the 2002 Metro expansion of the Urban Growth Boundary (UGB) and has previously been preliminarily analyzed and planned for via the precepts of two "concept plans". Primarily, this area was originally studied as part of the Damascus-Boring Concept Plan (see Exhibit C), with a small portion of the northwest sector of the greater EHVCP area originally studied as part of the Pleasant Valley Concept Plan (see Exhibit F). Finally, approximately 80 acres of land just north of Hagen Road was originally planned for in the City's Rock Creek Comprehensive Plan, but has been updated within the proposed EHVCP.
The greater subject area extends from the Highway 212 Corridor to the south; roughly the Rock Creek corridor, Scouters Mountain area and 145th Avenue corridor to the west; the Clackamas County/Multnomah County boundary to the north; and, the shared city limits boundary of Happy Valley and Damascus to the east. Lands located within the subject area are for the most part zoned Clackamas County RRFF-5 (five acre minimum parcel size), FF-10 (10-acre minimum

parcel size) or Exclusive Farm Use (EFU). Thus, any property within the EHVCP area that is within the city limits via previous annexation will be significantly "upzoned" from a County farm or rural-residential zone to a City urban zone. Or, if a property that is not currently located within the city limits should opt to annex, staff has proposed changes to the Development Code that would "convert" the existing Clackamas County zone to the comprehensive plan designation/zone adopted within the EHVCP (unless the EHVCP itself should be subsequently amended).

The EHVCP is part and parcel of five major products considered in two separate land use files. File No. CPA-01-09 includes four of the products: an integrated land use and transportation plan which includes Comprehensive Plan Map Amendments/Zone Changes (see Exhibit H) implementing the new development districts (also typically referred to as zoning districts or just "zones") that will be legislatively applied to all annexed properties within the plan area; accompanying Comprehensive Plan Text Amendments (see Exhibit J); a Transportation System Plan (TSP) Update (see Exhibit K); and, adoption of the Happy Valley Steep Slopes and Natural Resource Overlay Zone Map (see Exhibit I). Concurrent File No.LDO-01-09 includes extensive amendments to, and re-organization of, the City's Development Code. The process to completely revise the Happy Valley Development Code began in 2006 with a state Transportation and Growth Management (TGM) grant. The focus of the grant work was to integrate and update current city code language with the state's Model Development Code & User's Guide for Small Cities (2005) with the result being a reformatted code. The reorganization was largely policy neutral, with the City's existing standards reformatted for ease of use and internal consistency. This first phase was completed in June of 2007.

The City began a second phase of work revising the existing Land Development Code in the fall of 2007. This second phase proposed refinements and additions to the draft produced in the first phase, with an emphasis on the following:

- ensuring that code language is readable and user-friendly
- further revising code language to ensure that standards and procedures are appropriate for the city
- crafting of new zones in compliance with the East Happy Valley Comprehensive Plan
- integrating and incorporating changes to the city's existing steep slopes overlay;
- updating code language to be compliant with Metro Title 13
- checking the revised code language for internal consistency

In addition to new Chapters 16.32 Steep Slopes Development Overlay Zone and 16.34 Natural Resources Overlay Zone, the new code includes the codification of a number of new zones that are found within the EHVCP area, including new commercial and light industrial zones.

OBSERVATIONS:

CONCEPT PLANS:

METRO 2040 PLAN/DAMASCUS-BORING CONCEPT PLAN

- Planning for the subject area has occurred over time and at different levels (from very broad efforts to the much more specific proposed EHVCP), beginning with the Metro 2040 Plan Map (Exhibit E), which then progressed to the Damascus-Boring Concept Plan (Exhibit C). As delineated within those plan illustrations, the EHVCP area was envisioned as a mix of residential, commercial, industrial and open space uses, Focusing on the Employment and Industrial areas, staff notes that at the time of the expansion by Metro of the Urban Growth Boundary (UGB) in 2002, the subject area was envisioned as being planned for a combination of "Employment Areas", "Industrial Areas" and "Regionally Significant Industrial Area" (RSIA) – see also the Metro Title 4 Design Types Map (Exhibit D). However, we note that at a very fundamental level, these Metro requirements have always simply provided a "guide" to land-use planning in the greater subject area, with "fine tuning" of these guiding documents occurring at the Concept Plan level, and ultimately, at the Comprehensive Plan level. Thus, subsequently, with the acceptance by the Metro Council and the City of Happy Valley City Council of the Damascus-Boring Concept Plan, the planning document illustrated a general "Employment" designation, which progressed from "Mixed" to "Industrial". The EHVCP follows the general direction of the Metro 2040 Plan, and further "fine tunes" the more specific and local efforts of the Damascus-Boring Concept Plan. For example, the City's proposed Employment Center (EC) zone contains provisions that mirror the requirements of the Metro Urban Growth Management Functional Plan (Functional Plan), specifically Section 3.07.440 (Protection of Employment Areas). In addition, the City's proposed Industrial Campus (IC) zone mirrors the requirements of Section 3.07.420 (Protection of Regionally Significant Industrial Areas) of the Functional Plan. If approved by the City Council, adoption of the EC and IC Comprehensive Plan Designations/Zoning Districts and application of these designations/zones to the illustrated subject areas will be forwarded to Metro for consideration of the formal amendment of the 2040 Plan Map to edit the delineations and borders of the conceptualized Employment, Industrial and RSIA areas from the Metro 2040 Plan Map to reflect that of the Damascus-Boring Concept Plan (DBCP) and in turn, the further development of the EHVCP. For additional discussion, see the narrative section titled "New Commercial and Industrial Districts", below.

- In regard to areas of the EHVCP impacted by steep slopes and natural resources (with particular emphasis on residential areas) we further note and emphasize that the Damascus-Boring Concept Plan provides but a "conceptual guide" to the illustration of "conservation" and "transition" areas, and that although true survey data would be the litmus test for any future analysis, this mapping illustrates one of the basic premises of the landscape based place-making that is a precept of the DBCP – that flatter, less steep areas accommodate development, while steeper sloped areas and natural resource areas do not. To that end, the EHVCP reflects many of the basic precepts of the DBCP, including intensive residential and employment districts in the 172nd Ave. corridor, while utilizing less dense residential zoning for the steeper slope/natural resource areas within the plan area, particularly within the transportation system challenged Scouters Mountain area. For further discussion, see the narrative sections on "Steep Slopes" and "Natural Resource Overlay Zone", below.

PLEASANT VALLEY CONCEPT PLAN

- In, 2006 in conjunction with the approval of the DBCP, the City of Happy Valley approved a small portion of the plan area known as the Pleasant Valley Concept Plan (PVCP), which also conceptually plans for parts of the cities of Portland and Gresham. As illustrated in Exhibit F, the portion of the PVCP located south of the Clackamas County/Multnomah County border (Clatsop Street/Cheldelin Road area); east of 162nd Avenue; north of roughly Sager Road; and, west of the Foster Road corridor area is included in the EHVCP area. As demonstrated by the proposed comprehensive plan designations/zones found within the EHVCP, the envisioned "sub-districts" of the PVCP have gone from the concept plan level to the comprehensive plan level, including the conceptualized Employment area and the noted major arterial providing a potential connection from 172nd Avenue to 190th Avenue. Staff notes that again, the approved Concept Plan did not reflect the Metro 2040 Plan Map/Title 4 Design Types Map for a sub-region of the Concept Plan area (the noted Employment area east of 172nd Avenue and south and west of Foster Road). That is, the Metro designation of "Industrial", is illustrated as "Employment" in the approved PVCP (and for that matter, within the applicable portion of the DBCP), and further, is proposed to have a Comprehensive Plan designation/zone of Employment Center within the EHVCP.

ROCK CREEK COMPREHENSIVE PLAN

- In 1999, the City completed the Rock Creek Concept Plan for Urban Reserve Areas 14 and 15, which eventually became the Rock Creek Comprehensive Plan (RCCP), adopted

in 2001. However, portions of the greater RCCP area had not been appropriately planned for as they were outside the Urban Growth Boundary (UGB) at that time. Thus, from 2004 to the present, the Damascus-Boring Concept Plan and the subsequent draft EHVCP included "duplicative" planning efforts for roughly 80 acres of land located north of Hagen Road and the since closed Pleasant Valley Golf Club (PV Golf Club). Thus, in the early planning stages of the EHVCP, staff recommended removing the approximately 80-acre "Hillside Residential" (5-8 dwelling units per net acre) area to the north of the PV Golf Club. However, West Hills Development (former contract purchaser of 27 acres of this land from the Beall Family as well as the PV Golf Club) communicated their willingness to work with the city to provide an expedited Comprehensive Plan Map Amendment on roughly one-half of this area (40 acres), located at the northwest corner of 172nd Avenue and Hagen Road. Subsequently, after public hearing before the Planning Commission, on October 16, 2007 the City Council approved Ordinance No. 363, which amended the Rock Creek Comprehensive Plan – Land Use Plan by removing 40 acres to the west of the anticipated West Hills Comprehensive Plan area from the RCCP and removed the Transportation section of the Plan by replacing it with the City's TSP (see Exhibit G).

- Subsequent to the adoption of Ordinance No. 363, the residential market began a fairly rapid and precipitous decline, and as such, West Hills Development has not pursued the aforementioned Comprehensive Plan for the 40-acre area, and indeed is no longer the contract purchaser of the Beall Family properties. Therefore, the more recent versions of the EHVCP illustrate all of the 80-acre "Hillside Residential" area of the RCCP being planned for within the EHVCP area, as originally designed. Staff recommends that the RCCP be again amended to remove the second 40-acre block (that was to be the subject of the West Hills Comprehensive Plan), and we note that the implementing Ordinance for the EHVCP will include the repeal of Ordinance No. 363. Further a letter in support of such action has been provided by George Beall (Exhibit W).

EAST HAPPY VALLEY COMPREHENSIVE PLAN (EHVCP)

- Thus, the two concept plans (Damascus-Boring and Pleasant Valley) have provided the conceptual plan "base" for the development of the integrated land use and transportation plan known as the EHVCP. In this case, the "integrated" portion of the title refers to the fact that the land use plan has been crafted in conjunction with the conceptualized location of the collector and arterial streets that are illustrated within the EHVCP and are subsequently reflected in the TSP Update (Exhibit K). Staff notes that these alignments, though necessary to serve the projected residential, commercial, industrial and institutional densities envisioned within the plan, are not necessarily going to be

developed in the exact location they are illustrated. Outside of the Highway 212, Sunnyside Road and 172nd Avenue corridors, at this time, it is difficult to imagine any other roadways within the EHVCP area being a capital improvement project (government funded and constructed), and as such, the eventual location of said collectors and arterials will be determined via future development and land use patterns.

- Continuing in the tradition of the City's "one-map" system, the EHVCP represents a Comprehensive Plan designation/zoning district map that if approved, will include the legislative application of the pertinent Comprehensive Plan designation/zoning district to all existing lots of record that have annexed within the city limits, and thus represents a "Post Acknowledgement Plan Amendment" (PAPA), which includes a fairly large scale amendment to the City's Comprehensive Plan Map/Zoning Map. Staff notes that concurrent changes within the City's Development Code (File No. LDO-01-09) provides that for any property that should opt to annex within the city limits (or should be enveloped in an "island annexation") the existing underlying Clackamas County zone associated with any such property will be converted to the City Comprehensive Plan designation/zoning district, and through said or similar mechanisms, over time, all properties within the EHVCP area will receive a City Comprehensive Plan designation/zone.

- As previously observed, the EHVCP represents a maturation of the planning concepts explored in the two Concept Plans, with the large majority of the subject area being located in the Damascus-Boring Concept Plan area. Per the precepts of the DBCP, commercial development is clustered in nodes (ranging from small, neighborhood centers, to larger format retail complexes) along 172nd Avenue, paired with small retail service nodes designed to serve the Rock Creek Employment District (the EC and IC zoned areas) as well as a node to the east of the Rock Creek Mixed Employment (RC-ME) which is designed to potentially provide further office services associated with the planned Providence medical center and other employment area to the west. In addition, the 172nd Avenue corridor sees fairly intensive residential development potential, with clusters of multi-family housing, attached housing, and some areas of detached single-family housing.

- Incorporating a great deal of public debate, the City; property owners; consultants; developers and their representatives; and others have involved over a year of a Citizen Advisory Committee (CAC) and over a year of Planning Commission Public Workshops on some of the most difficult aspects of the DBCP, namely, the residential densities envisioned within the approximately 750-acre area encompassing the East Boring Lava

Butte commonly referred to as "Scouters Mountain". Staff notes that originally, the DBCP envisioned R-40 zoning (approximately one dwelling unit per acre) for this area. However, the first drafts of the EHVCP increased said zoning threshold to R-20 (20,000 square-foot lot size) and indeed, the current draft EHVCP includes a mixture of R-10, R-15 and R-20 zoning within the subject area, a significant increase in underlying or "base" zoning density. The City's proposed Development Code (File No. LDO-01-09) includes new chapters addressing Steep Slopes and Natural Resources which further affect potential residential densities in the subject area, providing a sometimes complex future development scenario within the areas that are subject to steep slopes or natural resource constraints, with accompanying provisions for density transfer.

In trying to summarize the process and development ramifications of the density "picture" for the greater Scouters Mountain area for purposes of this narrative, staff notes that at the previous Planning Commission Workshops, the proposed zoning married with the proposed Development Code Text Amendments (in particular proposed Chapter 16.32 - Steep Slopes Development Overlay Zone) the Planning Commission considered three primary approaches:

First, staff illustrated the current base zoning and draft development code text which provided a "lower density" density scenario (approximately 550 dwelling units on Scouters Mountain), to be served by one collector (presumably to 147th Ave.), one connection to Jackson Hills, and the upgrading of Monner Road to collector status, but would provide limited transportation connectivity. Second, staff illustrated the current base zoning married with two key changes to the draft development code text, specifically – increasing the eligible density transfer rate in conservation areas from one du/acre to two du/acre and increasing the total density percentage that might occur within a transfer area from 150% to 200% of the maximum density allowed within the underlying zoning district(s) for that buildable area, which together would provide a "medium density" density scenario (approximately 737 dwelling units on Scouters Mountain), to be served by two collectors (presumably one to 147th Avenue and one to the envisioned 162nd Avenue extension), one connection to Jackson Hills, and the upgrading of Monner Road to collector status. Finally, staff illustrated the current base zoning married with the development code text changes outlined in a developer (Newland Communities) proposal providing the "high density" density scenario (approximately 1,040 dwelling units on Scouters Mountain) to be served by at least the two collectors and the connection to Jackson Hills/Monner Road upgrade discussed, above. In a joint Planning Commission/City Council Public Workshop held on September 2, 2008, staff received general direction to pursue the "medium density" option, and the proposed draft zoning and concurrent development code language generally provides for said scenario.

For further discussion, see the narrative sections on "Transportation System Plan Update" and "Steep Slopes Overlay Zone", below.

OVERALL DENSITIES/ZONING DISTRICTS

- As described above, the EHVCP Map consists of a mixture of residential, commercial, industrial and institutional zones. The mix of zones includes eight different designations for residential districts. These residential districts allow for a variety of housing types that include: single-family detached homes, single-family attached homes (townhouses and row houses), multi-family units (duplexes, triplexes, apartments, and condominiums), and mixed use buildings with residential uses. The residential zoning districts vary in density through provisions that establish a wide range of lot sizes. These provisions also serve to create variety in neighborhood character.

  Limited residential uses are allowed in the proposed commercial and industrial districts. In the MCC and CCC districts, residential and commercial uses would be allowed in either a vertical or horizontal mix of uses. Residential uses are allowed on the upper floors of buildings in the EC district. The commercial and industrial districts included in the EHVCP provide land for retail and employment uses.

  Residential Density
  In the Memorandum from Otak regarding *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N), an analysis of the buildable land supply as designated in the EHVCP Map dated November 24, 2008 for residential, commercial, and industrial uses is documented. Based on a set of assumptions and calculations in regard to future residential densities within the greater 2,100-acre plan area, the City has estimated "build-out" residential densities. The estimates are predicated on the information provided within the Memorandum. The City recognizes that Metro's Urban Growth Management Functional Plan (UGMFP), Section 3.07.1120(C) requires that new urban areas include the "provision for average residential densities of at least 10 dwelling units per net developable residential acre or such other densities that the Council specifies pursuant to section 3.01.040 of the Urban Growth Management Functional Plan." However, Happy Valley's requirement is 9.1 dwelling units per net buildable residential acre because the area was part of the intergovernmental Damascus/Boring Concept Plan process. The lower average density for Happy Valley is due to large areas of low density zoning in sensitive environmental areas, principally Scouters Mountain. When the R-20, R-15 and R-10 designated lands to the west of the existing 162nd Avenue and the proposed 162nd connection around the base of Scouters Mountain are removed from the EHVCP residential capacity calculations, the average density of the remaining area is

approximately 14 dwelling units per net buildable residential acre (3,889 dwelling units on 283 net buildable residential acres). This number is an approximation of the average net residential densities in the lower elevation areas of the 172nd Avenue corridor.

As illustrated in the *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N), the following estimates are projected for the EHVCP area:

Net buildable residential acres:	513.65 acres
Dwelling units:	4,717 dwellings
Net residential density:	9.18 dwelling units per net residential acre
Net buildable employment acres:	259.10 acres

The analysis within the memorandum is based on the East Happy Valley Comprehensive Plan Map as of November 24, 2008 and Draft Happy Valley Development Code Amendments as of December 9, 2008.

Employment
Future employment within the greater 2,100-acre plan area is estimated based on a set of detailed assumptions and calculations in the Memorandum provided by DKS regarding *2035 Traffic Analysis* dated November 28, 2008 (Exhibit L). Based upon building size requirements in the proposed commercial and industrial land use designations/zones in the EHVCP Map, DKS estimates that the area will provide jobs for 990 retail/service employees and 12,350 office/industrial employees for a total employee estimate of 13,340.

- The proposed application of comprehensive plan designations/zone districts is primarily broken up into three categories: residential districts; commercial districts; and industrial/employment districts.

Residential Districts
The application of the Low Density Residential Districts (R-20 and R-15) in the EHVCP Map (Exhibit H) is part of a larger policy approach intended to enhance sensitive resource protection, while providing for low impact development. A comparison of the EHVCP Map with the *Happy Valley Steep Slopes and Natural Resource Overlay Zones Map* (Exhibit I) demonstrates the connection between the application of the R-15 and R-20 zoned land in the EHVCP area, and the location of sensitive resource areas, which given the number of resources, is particularly relevant to the greater Scouters Mountain area. The R-20 district is generally applied to the riparian corridors and steeply sloped sides of Scouters Mountain, while the R-15 district is generally applied to the flatter top

of the mountain. As designated in the EHVCP Map, approximately 91 percent of the vacant and redevelopable land (as defined in the *East Happy Valley Buildable Lands and Residential Capacity Analysis*) in the R-20 district contains protected sensitive resources, with only 8.7 percent as gross buildable land. The Steep Slopes Development Overlay (SSDO) and the Natural Resource Overlay Zone (NROZ) are applicable to the majority of land within the R-15 and R-20 zones. Sensitive resource areas protected by these overlays are indicated in the *Happy Valley Steep Slopes and Natural Resource Overlay Zones Map*. The overlays allow for the transfer of density from protected areas to unconstrained areas and buildable portions of the protected areas as defined in Chapter 16.63 of the Happy Valley Land Development Code (File No.LDO-01-09).

The application of the Medium Density Residential Districts (R-10 and R-7) in the EHVCP Map expresses new Comprehensive Plan Policies aimed at providing a transition between Low Density Residential Districts and High Density Residential Districts. R-10 and R-7 zones are generally located at the base of Scouters Mountain providing a transition between the R-20 zone applied to the steeply sloped sides of the Mountain and the 172nd Avenue Corridor to the east and between the Scouters Mountain area and the existing residential areas to the north, south, and west. The R-10 designation also applies to Rock Creek Green. R-10 and R-7 districts are applied to the residential uses to the east and south of Rock Creek Green and in riparian areas along the border with the City of Damascus to the east.

The High Density Single-Family Residential Districts (R-5 and MUR-S) in the EHVCP MAP are provided for the purposes of transitioning from R-10 and R-7 districts to the mixed use nodes on 172nd Avenue. In the EHVCP Map, only one site is designated MUR-S. The High Density Attached Residential Districts (SFA and MUR-M2) generally front 172nd Avenue and/or provide additional residential density in mixed use nodes. These zones are located along 172nd Avenue at intersections with proposed east/west arterials and collectors. The location of the SFA and MUR-M2 zones add residential density to mixed use nodes. The MUR-S and MUR-M2 districts also provide for neighborhood commercial uses, thereby increasing the overall supply of commercial land within the EHVCP.

Commercial Districts

The location of the Mixed Commercial Center (MCC) and Community Commercial Center (CCC) designations on the EHVCP Map are consistent with the locational criteria established during the Damascus/Boring concept planning effort. The centers are spaced along the 172nd corridor with consideration for the distance between centers along the corridor and natural features within the EHVCP area. These districts provide for a wide

range of commercial uses that meet the needs of future residents located within EHVCP and surrounding areas. The MCC districts provide large commercial nodes in two locations on 172nd Avenue. The MCC district allows for one site to exceed site requirements, this site is located within the commercial node at the intersection of 172nd Avenue and Sunnyside Road. The CCC designation provides for smaller scale retail and services. The designation of CCC land within the 172nd Avenue and Sunnyside Road node bolsters the range of commercial uses the node can accommodate and generates a higher concentration of commercial activity. Another CCC site forms the center of a mixed use node north of Hagen Road. Finally, two small CCC mixed-use centers are provided to serve the proposed industrial area designated/zoned Industrial Campus (IC). These two mixed-use centers are important to the support the needs of businesses and employees within the IC zone because the proposed IC zoning district contains specific language limiting commercial retail use within the district consistent with the provisions of Metro Functional Plan Section 3.07.420.B. For additional discussion, see the narrative section titled "New Commercial and Industrial Districts", below.

Industrial Districts

The 172nd Avenue corridor is anchored by large amounts of industrial and employment land that, when developed, will provide land for employment. The location and type of employment related designations have been planned in response to economic opportunities as identified by the City from a local perspective, and are consistent with broader scale planning in the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan. The Employment Center (EC) designation adjacent to 162nd Avenue provides land for medical related uses adjacent to the planned Providence Medical Center. The Industrial Campus (IC) designation in the southern part of the EHVCP area is responsive to the larger lot and less sloped lands close to the existing Hwy. 212 and the planned Sunrise Corridor. These factors were prioritized by participants in the Concept Planning process, which designated the same area for industrial employment. The EC designation on the east side of 172nd Avenue (also in the southern EHVCP area) provides for higher density employment intended to supplement the larger lot IC lands. The EC area in the northern part of the EHVCP area is consistent with the Damascus Boring Concept Plan and is an extension of the adjacent employment area in Pleasant Valley. For additional discussion, see the narrative section titled "New Commercial and Industrial Districts", below.

TRANSPORTATION SYSTEM PLAN (TSP) UPDATE/TRANSPORTATION ISSUES

- The City's TSP Update (Exhibit K) reflects the collector and arterial road system conceptualized in the EHVCP, and in addition, has been expanded from the 2006 TSP to include areas since annexed within the City, particularly the Eagle Landing and Windswept Waters areas. Although there is a plethora of important information found within the City's TSP, staff notes that key chapters include Chapter 5 (Pedestrian Plan), particularly Figure 5-1 (Pedestrian Master Plan); Chapter 6 (Bicycle Plan), particularly Figure 6-1 (Bicycle Master Plan); Chapter 7 (Transit Plan), particularly Figure 7-2 (Transit Master Plan); and, Chapter 8 (Motor Vehicle Plan), particularly Figure 8-3 Functional Classification which is effective in illustrating the existing and proposed future road system within the City of Happy Valley. In addition, it is worth noting that the City has received a grant from the State's TGM Program for an expanded Pedestrian Master Plan that is currently being developed – this detailed plan will eventually amend Chapter 5, and will illustrate existing and future local trail systems and connectivity potential to adjacent cities and unincorporated Clackamas County.

- In analyzing the development potential of the EHVCP area and conceptualized zoning, staff sought to ascertain that the projected residential and employment densities being explored within the EVHCP mix of residential, commercial , industrial and institutional zoning would be adequately served in the future by the proposed transportation system. To that goal, DKS Associates constructed the Memorandum from DKS Associates regarding 2035 Traffic Analysis dated November 28, 2008 (Exhibit L). Key findings note that:

  - The proposed future roadway network shown in the draft Plan Map would provide adequate capacity and circulation for the proposed zoning designation included the Draft EHVCP based on a horizon year 2035 transportation analysis.
  - Traffic volumes on roadways located outside the EHVCP area would be relatively unaffected from the proposed zoning.
  - The 162nd Avenue extension south of Sunnyside Road would carry approximately 13,000 vehicles per day. This roadway connection would be necessary to serve local/neighborhood vehicle trips and preserve capacity on 172nd Avenue.
  - The 177th Avenue roadway connection from Clatsop Street to Rock Creek Boulevard would carry approximately 4,000 to 11,000 vehicles per day. 177th Avenue would provide a significant benefit to the future performance of 172nd Avenue by providing a parallel collector route to the east for local/neighborhood vehicle trips.

- Scouters Mountain Road would require two connections to the arterial roadway system (at 145th Avenue north of Monner Road and 172nd Avenue north of Hagen Road) to provide adequate access to future development on Scouters Mountain and limit the growth of traffic on Monner Road.
- The extension of Rock Creek Boulevard as a five lane arterial east of 172nd Avenue to Highway 212 in Damascus would significantly reduce the traffic demands on 172nd Avenue between Rock Creek Boulevard and Highway 212.
- Monner Road would serve as a collector roadway in the Draft EHVCP transportation network. Due to the constrained topography of Scouters Mountian, there would be a lack of east-west collectors between 145th Avenue/152nd Avenue and 172nd Avenue which would require Monner Road to serve as a collector roadway. This change in functional classification for Monner Road is included in the Draft TSP.

- In analyzing the development potential of the greater Scouters Mountain area, staff has explored road safety and capacity concerns related to the current condition of Vrandenburg Road. In response, our traffic consultant has crafted the Memorandum from DKS Associates regarding Scouters Mountain Roadway Phasing, dated October 23, 2008 (see Exhibit M). Fundamentally, this analysis recommends a phased approach to development restrictions based on the future provision of adequate transportation connections. Specifically, for "Phase I" that until alternate transportation routes develop over time, Vrandenburg Road's ability to serve future residential development is severely limited, and that a vehicular "trip cap" (which increases with the phasing plan) should be implemented. This approach does have what could be some fairly short term impacts, in that a trip cap of 200 vehicles per day beyond the homes already served by Vrandenburg Road is recommended. However, staff notes that future development within the Scouters Mountain area is quite likely to first occur from the Jackson Hills development to the west, due to the fact that the street system within the Jackson Hills PUD provides the closest extensions of public sewer and water. However, we do recommend that this memo forms the basis for further study, and that if approved, the City investigate future amendment to the City's Comprehensive Plan, TSP and Development Code in order to evaluate and implement said phasing plan and a "trip-cap ordinance".

NEW COMMERCIAL AND INDUSTRIAL DISTRICTS

- In conjunction with the EHVCP, the City proposes the creation and application of new Comprehensive Plan designation/zoning districts for a number of new commercial, employment and industrial zones – see the proposed Comprehensive Plan Text Amendments (Exhibit J) and File No. LDO-01-09. Specifically, in regard to commercial

zoning – the new Community Commercial Center (CCC) zone (30,000 square-foot building footprint limitation per structure within a maximum five-acre plan area) and the new Mixed Commercial Center (MCC) zone (60,000 square-foot building footprint per structure within a 15-acre maximum plan area). However, as illustrated within the East Happy Valley Comprehensive Plan Map and Comprehensive Plan Text Amendments, one MCC zoned center may exceed the 15-acre limit noted above but shall not exceed 20 acres of contiguous property. In this center, the maximum building footprint size is limited to 150,000 square feet per structure. Further, as part of demonstrating compliance with master plan requirements, design review to the Happy Valley Style, and other code criteria, any development within this area will also be required to demonstrate how the visual impact of larger scale development has been mitigated; the streetscape is pedestrian-oriented and varied to create visual interest; public amenities are provided and scaled appropriately; transitions to adjacent areas and future development are provided; adequate infrastructure is provided; and, overall design excellence justifies the larger than normal scale of the project.

- As previously observed, the EHVCP also proposes the creation and application of a new employment zone – Employment Center (EC) and an industrial zone – Industrial Campus (IC). The placement of these zones on the EHVCP Map is in compliance with the DBCP and specific text within the proposed development code amendments (again, see File No. LDO-01-09) provides for these zones to be compliant with the appropriate Metro Design Type Guidelines. Key language from the EC zone includes:

  "Single or multiple retail or services buildings shall not exceed 60,000 square feet gross leasable area on a single lot or parcel or contiguous lots or parcels. For the purposes of this limitation, parcels or lots separated by only a transportation right-of-way are considered to be contiguous."

  Key language from the IC zone includes:

  - "Lots or parcels larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the City so long as the resulting division yields at least one lot or parcel of at least 50 acres in size" and,

  - "Retail or professional services buildings that cater to everyday customers shall not exceed 20,000 square feet of cumulative gross floor area and single outlets shall not exceed 3,000 square feet gross floor area. Retail or professional services uses shall not exceed 5% of the contiguous land area within an IC district."

STEEP SLOPES DEVELOPMENT OVERLAY ZONE

- The intent of the Steep Slopes Development Overlay Zone (SSDO) is to prohibit development on steep slopes 25 percent and greater and to balance conservation with development on slopes 15 to 24.99 percent, within the entire city limits. By limiting development on steep slopes, the overlay minimizes soil erosion and hazards associated with development on steep or unstable slopes. The overlay regulations will assist in the creation of a coordinated open space system preserving resources, scenic views, and wildlife habitat. Although the SSDO has seen significant discussion in regard to properties within the EHVCP area, and specifically the Scouters Mountain region, the overlay is being proposed within all steep slopes areas (replacing the City's "RSD-1 Overlay), and fundamentally alters the approach to steep slopes development within the City of Happy Valley. For additional discussion on the SSDO and specific implementing language, see the narrative and Chapter 16.32 of File No. LDO-01-09.

NATURAL RESOURCES OVERLAY ZONE

- On September 29, 2005 the Metro Council voted to approve a regional Nature in Neighborhoods (Goal 5) program which became Title 13 of Metro's Urban Growth Management Functional Plan (UGMFP). Local governments are required to comply with Title 13 by January 5, 2009 (the City has been granted an extension). Title 13 was created to implement Oregon Statewide Planning Goal 5 (natural resources, scenic and historic areas and open spaces) and Goal 6 (air, water and land resources quality). Title 13 requires local jurisdictions to meet regional performance standards relating to riparian and upland wildlife habitat.

  In the summer of 2008, the City of Happy Valley undertook an audit of the draft Land Development Code (LDC) and related documents to consider existing nature-friendly development practices and standards, identify implementation barriers, and make recommendations to incorporate more nature-friendly development standards into city regulations. This work was done as part of a State of Oregon Department of Environmental Quality 319 grant awarded to Metro to identify and promote low impact development planning practices. The audit included an evaluation of sections of the Comprehensive Plan, Development Code, and Engineering Design and Standard Details Manual, in terms of their ability to adequately address natural resources protection and storm water management and to encourage nature-friendly development practices as required by Metro's Title 13. Because Clackamas County Water Environment Services

(WES) currently regulates buffer requirements for natural resource protection within Happy Valley, the "Surface Water Management Rules and Regulations for Clackamas County Service District No. 1 (2005)" document was also reviewed for the audit.

Recommendations in a final report generated by the audit (*Nature-friendly Development Practices: City of Happy Valley Policies, Code, and Procedures Audit*, August 1, 2008) included updating the city's riparian area and wildlife habitat policies to emphasize the importance of these environmentally sensitive areas for wildlife and to more explicitly address nature-friendly development practices. One of the conclusions of the audit was that elements of the City's existing water quality-related standards addressing Metro's Title 3, which are currently found in Article 16.34 of the City's code, and model code language addressing habitat conservation areas (Metro's Title 13 HCAs implementing Statewide Planning Goal 5 for riparian resources and wildlife habitat) should be combined into a new Natural Resources Overlay chapter.

Consistent with the 2008 audit, proposed Comprehensive Plan policies (Policies 35A, 35B, and 35C) direct the city to adopt standards and regulation to protect natural resources for their water quality functions, as well as their role in providing wildlife habitat. Proposed policy language states that protected resources must be indicated on a *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map.* With the draft *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* the City of Happy Valley is proposing to adopt mapped/protected water quality and habitat resource areas that include Title 3 areas currently regulated by WES and the Habitat Conservation Areas (HCAs), as identified in Metro's Title 13.

- The standards and regulations that protect natural resources are found in the proposed Chapter 16.34 (see File No.LDO-01-09). Draft Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13. Adoption of the proposed Comprehensive Plan policies related to natural resource and habitat protection, the mapping of protected resources on the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map*, and the implementation language in Draft Chapter 16.34 will ensure that the City of Happy Valley is incompliance with Title 13 of the UGMFP. For additional discussion on the Natural Resources Overlay Zone and specific implementing language, see the narrative and Chapter 16.34 of File No. LDO-01-09.

LOCAL WETLAND INVENTORY (LWI)

- In further regard to natural resources, staff notes that the City and its consultant have recently crafted a Draft LWI, which is currently being reviewed by the Oregon Division of State Lands (DSL). As the LWI has yet to be approved by DSL, its adoption as an ancillary document to the City's Comprehensive Plan is not proposed in conjunction with File No. CPA-01-09, but will follow as a separate case file, staff report and findings of fact.

COMPREHENSIVE PLAN TEXT AMENDMENTS

- In support of the EHVCP and the implementation of the zoning districts and overlay zones, a number of amendments to the City's Comprehensive Plan text are recommended. The expansion of the city limits and zoning authority to the approximately 2,100-acre subject area, as well as the provisions of the amended Development Code, have led to the need for expanded language and re-organization of the City's Comprehensive Plan policies and text. For example, inclusion of the 2,100-acre area has by proxy marginally expanded the City's Historic Resources Inventory for historic sites that were previously located within unincorporated Clackamas County, but are now located within, and governed by, the City of Happy Valley. New language addresses this issue. However, staff notes that while a significant number of Comprehensive Plan Policies are proposed to be amended or added, we are not proposing large scale revisions to the very dated Comprehensive Plan text due to the fact that the much like the work proposed for the concurrent Development Code, the City plans to completely re-develop the circa 1981 (with subsequent updates to specific policies) Comprehensive Plan as part of the City's Periodic Review Work Program beginning in 2009.

- Staff recommends that the specific Comprehensive Plan Text Amendments detailed within Exhibit J be considered in relation to the implementation of the EHVCP, the TSP Update and the new Development Code (File No. LDO-01-09). This general text language and Policy language will "tie" these products to the City's greater Comprehensive Plan.

PUBLIC UTILITY INFRASTRUCTURE

- Sanitary and storm sewer provision are provided within the city limits by Clackamas County Service District No. 1 (CCSD#1), which is the service district for the greater

Happy Valley area, and is administered under the "umbrella" of Clackamas County Water Environment Services (WES). As illustrated within the Sanitary Sewer Master Plan Excerpt (Exhibit O), existing and planned sanitary sewer service is available for extension in order to serve the greater EHVCP area. In regard to storm sewer facilities, staff notes that Clackamas County WES is currently developing a Watershed Action Plan for this area, which will in turn direct the development of a more formal "Storm Sewer Master Plan" type document for the EHVCP area. Fundamentally, the development of such a master plan is dependent upon the adoption of the EHVCP and TSP Update, to be paired with the work done within the Watershed Action Plan. However, a very broad Surface Water Master Plans for Rock and Richardson Creek Watersheds document does exist that identifies challenges and issues in these two watersheds, an excerpt of which is included within Exhibit O.

- Domestic and re-use water (purple pipe) is provided within the city limits by the Sunrise Water Authority (SWA). As illustrated within the 2004 Water Master Plan Excerpt (Exhibit P), existing and planned domestic water service is available for extension in order to serve the greater EHVCP area.

SCHOOL CAPACITY

- The EHVCP is served by two school districts: North Clackamas School District #12 (NCSD#12) and the Centennial School District. The majority of the EHVCP area is located within NCSD, and extends roughly from Hwy. 212 to the south to the Hemrick Road area to the north. The Centennial School District area extends from approximately 152nd Avenue to the west, to the Clackamas/Multnomah County border to the north, to the Happy Valley/Damascus city limits to the east and back again to the Hemrick Road area to the south. Urban residential zoning in the EHVCP area has the potential to add a significant number of students to these school districts over time, particularly in the case of the NCSD. As the Commission may recall, NCSD#12 was successful in passage of an approximately $229,000,000 general obligation bond measure which in turn has funded the existing and ongoing construction of five new schools (three elementary schools and two middle schools) within the City of Happy Valley, which has provided capacity for an additional 1,100 elementary school students, 1,500 middle school students and a direct expenditure of approximately $142,000,000 within the City of Happy Valley. Unfortunately, a similar bond measure in the Centennial School District failed in the fall of 2008, though future efforts may be successful.

  In addition, the NCSD has adopted a long-term Facilities Master Plan and has implemented a construction excise tax (Exhibit Q) for which a subsequent

Intergovernmental Agreement (IGA) with the City of Happy Valley has been signed and authorized by the City Council. Similarly, the Centennial School District has a long term Facilities Plan and has also authorized the excise tax (Exhibit P), and is in the process of crafting an IGA with the City. Based on the construction of the five NCSD schools, the Facilities Plans and the authorization of the excise taxes, staff notes that the two school districts have demonstrated that future school capacity will exist to serve future residential development within the EHVCP area.

NORTH CLACKAMAS PARKS DISTRICT/HV PARKS MASTER PLAN

- As the City of Happy Valley has joined the North Clackamas Parks District (NCPD), the NCPD has an existing Parks Master Plan; has crafted a specific East Happy Valley Proposed Parks and Trails Plan; and is under construction with the development of an approximately 35-acre Community Park, Phase I of which is planned to be open in July 2009 (Exhibit S). The proposed and planned park facilities demonstrate future recreation and open space development opportunities within the EHVCP area.

PUBLIC INVOLVEMENT

- An extensive public involvement process has been associated with the crafting of the Draft EHVCP Map, Comprehensive Plan Policies, TSP Update and related Development Code work (File No. LDO-01-09), and has been made up of the following components:

Citizen Advisory Committee

- An 18-member committee was formed in 2006 to prepare the EHVCP Map and policies, and provide a forum for community involvement.
- The CAC met 12 times between June 21, 2006 and June 27, 2006.
- Each meeting provided opportunities for the public to participate.
- The CAC conducted a formal public review of the preliminary draft of the Comprehensive Plan map.
- On June 27, 2007, the CAC voted (with one member voting against) to support the Draft EHVCP Map and forward it to the Planning Commission.

Focus Groups

- During the CAC process, five focus group meetings were held. The process provided opportunities for experts and property owners to provide advice on residential, commercial and steep slope recommendations.

- During the PC Workshop process, a focus group was convened for work on the steep slope code.

Planning Commission Public Workshops

- The Planning Commission met 12 times between January 22, 2008 and October 28, 2008 to review the Draft EHVCP Map, Comprehensive Plan Policies, Draft TSP Update and implementing code (city-wide code update).
- Each Planning Commission workshop included opportunities for the public to participate.
- The workshop process was coordinated with the City Council at two City Council updates and one Joint City Council-Planning Commission meeting.

Open Houses

- Three Open Houses were held, two during the CAC process and one during the PC Workshop process.

Altogether, a wide variety of comments, concerns and recommendations were received by the City of Happy Valley in conjunction with this extensive public outreach effort. Many of said concerns and communications have been integrated within the EHVCP Map, the proposed Comprehensive Plan Text Amendments and the proposed Development Code Text Amendments (File No. LDO-01-09).

AGENCY AND INTERESTED PERSONS COMMENTS

- Notification and materials were delivered to the Oregon Department of Land Conservation and Development (DLCD), the required 45 days prior to this initial evidentiary hearing. In addition, notice and materials were sent to the regional government (Metro) and other affected public and private agencies. As of the date this report was written, one official comment had been received from DLCD, and is included as Exhibit T. Staff notes that a response letter is included as Exhibit U.

  Measure 56 compliant notice was sent to all parcels within the subject area. As of the date this report was written, five letters had been received, and are included as Exhibits V, W, X, Y and Z.

II. RECOMMENDATION

The general planning precepts and vision of the Metro 2040 Plan Map; Metro Title 4 Design Types Map; the Damascus-Boring Concept Plan; and, the Pleasant Valley Concept Plan have been integrated into, and become more clearly defined within, the proposed East Happy Valley Comprehensive Plan. The melding of this integrated land use and transportation plan with the proposed TSP Update; Comprehensive Plan Text Amendments; Steep Slopes and Natural Resource Overlay Map; and, the concurrent Development Code Text Amendments (File No. LDO-01-09) provides for the potential development of land use and transportation patterns that are fundamentally based on the restrictions of the natural environment (steep slopes, riparian corridors, wetlands, wildlife habitat, etc.) and aids in the preservation of said resources.

The development of new commercial and industrial districts in the Rock Creek Employment District area and the nodes along city arterials and collectors will provide future employment opportunities within the region and provide a much better "jobs to housing balance" than currently exists within the City of Happy Valley, while yet providing ample opportunity for residential development within the targeted Metro densities. In addition, the planned land development pattern provides for edges, gateways and centers to the EHVCP area and the greater City limits, and will help define the City for many years to come.

Planned improvements associated with the TSP Update call for development of a multi-modal transportation system that includes pedestrian amenities (sidewalks and separated paths); bicycle facilities; automobile and freight traffic systems; and, the expansion and continued development of public transit. Said integrated land use and transportation system will not only serve the EHVCP area, but the greater City of Happy Valley/unincorporated Clackamas County/City of Damascus/City of Gresham sub-region.

Therefore, staff recommends that the Planning Commission forward a recommendation of approval of CPA-01-09 (East Happy Valley Comprehensive Plan) on to the City Council.

III. FINDINGS OF FACT

1. The following Statewide Planning Goals are applicable to the subject request:

"Goal 1 (Citizen Involvement)

To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.

Staff Response:

Statewide Planning Goal 1 requires governing bodies charged with preparing and adopting a comprehensive plan to adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land use planning process. The citizen involvement component of the East Happy Valley comprehensive planning process provided many opportunities for the public to participate in the process, provide comments, and obtain information about the process. Between March 2003 and November 2005, the City and the Happy Valley community participated in the Damascus/Boring Concept Plan process. This process involved citizens through the Advisory Committee meetings, community forums, focus groups, and extensive public information available throughout the effort. Using the Concept Plan as a starting point, the City then initiated more localized and specific comprehensive planning for the EHVCP area. The City's comprehensive planning process included twelve meetings with the Citizen Advisory Committee, five focus group sessions, twelve Planning Commission Public Workshops, three open houses, and the on-going availability of City Staff throughout the process. Project posters, city newsletters, and the project website provided regular project updates to the community. Therefore, this criterion was satisfied by the EHVCP citizen involvement process.

Goal 2 (Land Use Planning)

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to ensure an adequate factual base for such decisions and actions.

Staff Response:

Statewide Planning Goal 2, Land Use Planning requires that local jurisdictions establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions. The EHVCP Map is an amendment to the City's Comprehensive Plan Map/Zoning Map. The EHVCP Map designations are consistent with proposed Comprehensive Plan policies, as delineated in Exhibit H of this report and the specifics of each Comprehensive Plan Designation/Zone is implemented within the City's Land Development Code (File No.LDO-01-09). These amendments are subject to public notice, an initial evidentiary hearing before the Planning Commission and a final review by the City Council. Thus, a well established planning process and policy framework exists within the City. Therefore, this criterion is satisfied by the proposed amendments.

Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces)

To provide natural resources and conserve scenic and historic areas and open spaces.

Staff Response:

Statewide Planning Goal 5 requires jurisdictions to inventory lands which contain significant open spaces, scenic resources, historic and cultural resources, and natural areas. If a resource or site is found to be significant, a local government has three policy choices: preserve the resource, allow proposed uses that conflict with it, or strike some sort of balance between the resource and the uses that would conflict with it. Title 13 was created to implement Oregon Statewide Planning Goal 5. Title 13 addresses requirements pertaining to wildlife habitat and riparian area protection and requires local jurisdictions to meet regional performance standards relating to these Goal 5 resources. By adopting the proposed Chapter 16.34, Happy Valley will comply with these sections of Goal 5, in accordance with OAR 660, Division 23, Procedures and Requirements for Complying with Goal 5, which states:

> *(3) Metro may adopt one or more regional functional plans to address all applicable requirements of Goal 5 and this division for one or more resource categories and to provide time limits for local governments to implement the plan. Such functional plans shall be submitted for acknowledgment under the provisions of ORS 197.251 and 197.274. Upon acknowledgment of Metro's regional resource functional plan, local governments within Metro's jurisdiction shall apply the requirements of the functional plan for regional resources rather than the requirements of this division (OAR 660-023-0080).*

Proposed Chapter 16.34 (File No.LDO-01-09) establishes the Natural Resource Overlay Zone (NROZ). Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13.

The NROZ includes protection of both Goal 5 and Goal 6 resources; therefore, not all natural resources protected in the NROZ have been identified as "significant" through the Goal 5 process. Some of the resources protected are "Water Quality Resources" pursuant to (UGMFP Title 3/Goal 6), and were not identified as significant Goal 5 resources.

Local and regional Goal 5 significant resources will be protected based on the City's Local Wetland Inventory (LWI), as mirrored within the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* (Exhibit I); water quality resources will be protected based on the proposed regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* used to indicate whether resources are present. The creation of these local regulations has occurred in coordination with broader scale resource inventory and planning that took place in the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan.

Because UGMFP Title 13 does not address wetland protection outside of riparian areas, Happy Valley intends to adopt a LWI to protect this Goal 5 resource as required by OAR 660-023-0100. Happy Valley's Draft LWI is currently being reviewed by the Oregon Division of State Lands (DSL). Once approved by the State, the LWI will proceed through a local adoption process. In addition, Goal 5 historic resources are protected through the Happy Valley Historic Resources Inventory. As discussed in the Observations section of this staff report, this inventory will be expanded through the adoption of Comprehensive Plan amendments to include historic resources within the EHVCP area that was previously unincorporated Clackamas County. The inclusion of these historic resources is based on a previous Goal 5 process undertaken by Clackamas County. Therefore, this criterion is satisfied by the proposed amendments.

Goal 6 (Air, Water and Land Resources Quality)

To maintain and improve the quality of the air, water and land resources of the state.

Staff Response:

Statewide Planning Goal 6 requires local comprehensive plans and implementing measures to be consistent with state and federal regulations on matters such as waste and process discharges from development that might adversely affect groundwater, air sheds, and river basins. The findings noted above for Goal 5 also apply to Goal 6 because the protection of natural resources yields benefits for the protection of groundwater, air sheds and river basins. Proposed Chapter 16.34 (File No. LDO-01-09) establishes the Natural Resource Overlay Zone (NROZ). Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13. As documented in the Goal 5 findings in this report, water quality resources will be protected based on proposed regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* (Exhibit I), used to indicate whether resources are present. Development proposals for the site will be reviewed with respect to the

adequacy of sanitary sewer, storm sewer, and public water supply to serve the proposed development. The creation of these local regulations has occurred in coordination with broader scale resource inventory and planning that took place in the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan. Therefore, this criterion is satisfied by the proposed amendments.

Goal 7 (Areas Subject to Natural Disasters and Hazards)

To protect people and property from natural hazards.

Staff Response:

Statewide Planning Goal 7 requires jurisdictions to apply appropriate safeguards when planning for development in areas subject to natural disasters or floods. The proposed Comprehensive Plan amendments would provide a stronger policy foundation for limiting development in natural drainage-ways, floodplains, wetlands, steep slopes and landslide hazard areas than is currently provided by the City's regulations. Draft Article 16.3, Specific Area Plan Districts and Overlay Zones, is consistent with the proposed amendments and this Goal by implementing standards that protect Steep Slopes (Chapter 16.32), Natural Resources (Chapter 16.34), and Flood Management areas (Chapter 16.35), found within File No.LDO-01-09. The lands protected under Chapters 16.32, 16.34 and 16.35 are shown in the *Happy Valley Steep Slopes and Natural Resource Overlay Zone Map* (Exhibit I). Further, the designation of land use shown in the EHVCP Map takes advantage of existing systems and natural resources, which have been evaluated from both a local and broader scale perspective. Low density residential districts such as the R-15 and R-20 districts are located in areas that exhibit natural resources and the potential for hazards. The larger lot sizes afforded by these districts are intended to help balance conservation needs and minimize impacts of development activities because lower density development typically covers less land with impervious surfaces than higher density or more intensive land uses. Additionally, the Steep Slopes provisions include clustering of development on less-sloped areas, limits on the amount of development allowed in steeper areas, transfer of density, and planned development reviews to ensure appropriate site design and implementation of the standards. Higher density residential districts and other land uses with more intensive development needs on the EHVCP Map are generally located away from natural drainage-ways, floodplains, wetlands, steep slopes and landslide hazard areas. The creation of these local regulations has occurred in coordination with broader scale resource inventory and planning that took place in the Pleasant Valley Concept Plan and the Damascus/Boring Concept Plan.

In addition, amendments proposed for Happy Valley's existing Flood Management Overlay Zone increase protection consistent with Goal 7 and include referencing Flood Damage Prevention requirements in Chapter 15.24 of the Municipal Code and additional requirements that demonstrate that new development proposals will be reasonably safe from flooding. Proposed code amendments include requiring a Type II Environmental Review Permit application for development proposals that include steep slopes, flood areas or natural resource areas. Therefore, this criterion is satisfied by the proposed amendments.

Goal 8 (Recreational Needs)

To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Staff Response:

Destination resorts are not applicable to the proposed amendments. However, within the EHVCP area the provision and siting of park land is applicable. The City of Happy Valley has an intergovernmental agreement with the North Clackamas Park and Recreation District to provide park planning within the EHVCP area. Parks will be developed as a part of the parks facilities plans illustrated within Exhibit S, through the subsequent development review process, and through coordination with school planning and siting in order to take advantage of shared facility opportunities. The proposed Comprehensive Plan Text Amendments (Exhibit J) include the following policies which support park and recreation planning in EHV: 56C.5j; 56C.6b, g; and 56c.7f. Among the designations within the EHVCP Map, public parks and usable open space are permitted uses in the R-20, R-15, R-10, R-7, SFA, and IPU districts and conditional uses in the R-5, MUR-S, MUR-M2, CCC, MCC, and EC districts. Therefore, this criterion is satisfied by the proposed amendments.

Goal 9 (Economic Development)

To provide adequate opportunities throughout the state for a variety of economic activities liable to the health, welfare, and prosperity of Oregon's citizens.

Staff Response:

Statewide Planning Goal 9 calls for diversification and improvement of the economy. This Goal asks communities to inventory commercial and industrial lands, project future needs for such lands, and plan and zone enough land to meet those needs. The proposed amendments would add

approximately 35 net buildable acres of commercial land (Mixed Commercial Center and Community Commercial Center) to the City of Happy Valley, and 220 net buildable acres of industrial land (Employment Center and Industrial Campus) to the City of Happy Valley. Additionally, the proposed amendments will add approximately 514 net buildable acres of residential land that will provide housing for employees (see Exhibit N). The location and type of employment related designations/zones have been planned in response to economic opportunities as identified by the City from a local perspective, and, consistent with broader scale planning in the Pleasant Valley Concept Plan and the Damascus Boring Concept Plan. The Employment Center (EC) designation east of 162nd Avenue and north of Hwy. 212 provides land for medical related uses adjacent to a planned future Providence Hospital and the greater Rock-Creek Mixed Employment (RC-ME) zoned area. The Industrial Campus (IC) designation in the southern part of the EHVCP is responsive to the larger parcel sizes and less sloped lands just north of the exiting Hwy. 212 corridor and the planed Sunrise Corridor. These factors were prioritized by participants in the Concept Planning process, which designated the same area for industrial employment. The EC designation on the east side of 172nd Avenue (also in the southern EHVCP area) provides for higher density employment intended to supplement the larger lot IC lands. The EC area in the northern part of EHVCP area (southwest of Foster Road) is consistent with the Damascus Boring Concept Plan and is an extension of the adjacent employment area envisioned in the Pleasant Valley Concept Plan. The proposed Comprehensive Plan Map/Zoning Map Amendments; Comprehensive Plan Policy Amendments; TSP Update; and, the concurrent Development Code Text Amendments (File No. LDO-01-09), provide the opportunity for future development that contributes to the state and local economy by providing for employment, retail, and service opportunities for residents of the City and nearby areas. Therefore, this criterion is satisfied by the proposed amendments.

Goal 10 (Housing)

To provide for the housing needs of citizens of the state.

Staff Response:

Statewide Planning Goal 10 requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. In addition, the goal requires planning for needed housing types, such as multi-family housing. The proposed Comprehensive Plan Ma/Zoning Map amendments will add approximately 514 net buildable acres of residential land to the City's existing supply of buildable residential lands. This new land supply is estimated to accommodate 4,717 new dwellings and an overall net density of 9.18 dwelling units per net buildable acre (see Exhibit N). The proposed

Comprehensive Plan Map/Zoning Map amendments will add buildable land to the City's current inventory that permits multifamily and other needed housing types. In the proposed Development Code amendments (File No.LDO-01-09), all Happy Valley residential districts allow for attached housing, either outright or through planned development reviews. A result of the EHVCP planning process is the creation of a new comprehensive plan designation/zoning district to address the need for attached housing, the Single-Family Attached (SFA) residential district. The SFA and Mixed Use Residential – Multi-Family (MUR-M2) districts accommodate a variety of attached and multi-family housing, while prohibiting new single-family detached residential homes. The proposed Comprehensive Plan Map/Zoning Map amendments will establish buildable land for attached and multi-family housing in SFA and MUR-M2 districts in the EHVCP area. The SFA district allows only attached and multi-family dwellings with fewer than four units per building, while the MUR-M2 district allows only attached and multi-family dwellings. With the exception of the SFA and MUR-M2 districts, all other residential districts applied in the EHVCP Map allow manufactured housing. The proposed Comprehensive Plan Policy Amendments, Development Code Text Amendment and Comprehensive Plan Map/Zoning Map Amendment and legislative application of the residential designations in the EHVCP Map will increase the City's buildable land supply and the supply of land that permits multifamily and other needed housing types. In addition to increasing the supply and diversity of housing choices, the proposed map amendments have located housing types to support future transit use, support the creation of mixed use centers, create complete neighborhoods, and carefully plan the transition from higher to lower densities. Therefore, this criterion is satisfied by the proposed amendments.

Goal 11 (Public Facilities and Services)

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Staff Response:

As the City of Happy Valley is not a "full-service" municipality, providing all water, sewer, streets, etc., public facilities and services plans exist in the form of Master Plans; rules and regulations; implementing ordinances; and, Intergovernmental Agreements (IGA's) between the City and its service providers. Thus, the provision of sanitary sewer is illustrated by the documents provided by CCSD#1 (Exhibit O); storm sewer does not currently have a formal "master plan" per se, but the provision of storm sewer and surface water regulation is covered by the City's Development Code, Engineering Design Standards & Specifications Manual, and the

WES rules and regulations; domestic water by the excerpt from the SWA Water Master Plan (Exhibit P); transportation services by the included TSP Update (Exhibit K); park services by the excerpt from the NCPD Master Plan (Exhibit S), all of which are further established by either corresponding Development Code language, implementing ordinances, and/or IGA's. In regard to emergency services, although the Clackamas Fire District No. 1 (CFD#1) and the Clackamas Sheriff's Office do not maintain "master plans", the City is within the CFD#1 district which is funded by tax revenue, and the City provides police services by contract specific to the City, which is currently funded via a four-year operating levy and fee collection. Therefore, this criterion has been satisfied by the proposed amendments.

Goal 12 (Transportation)

To provide and encourage a safe, convenient and economic transportation system.

Staff Response:

The intent of Goal 12 is "to provide and encourage a safe, convenient, and economic transportation system." The transition of land within the EHVCP area from rural to urban land use designations will impact the existing transportation system and require the provision of new transportation facilities. In conformance with *OAR 660-012-0060(2)(b)*, Staff is proposing an update to the City's Transportation System Plan (TSP), see Exhibit K. The purpose for the TSP Update is to address recent growth within the City and ensure that transportation system plans can adequately serve growth in the existing city limits as well as the EHVCP area and adjacent growth areas of Pleasant Valley/Springwater (Gresham), and Damascus. The TSP Update also confirms consistency with the Regional Transportation Plan and Statewide Planning Policies. Further, the TSP Update is aimed at fulfilling the City's transportation policies and the requirements of the Transportation Planning Rule (TPR) for comprehensive transportation planning.

The EHVCP Map represents an integrated land use and transportation plan. Beginning with the Pleasant Valley and Damascus/Boring Concept Plans, the land use designations were developed in an iterative manner with the planning for multi-modal transportation facilities. The process continued as the City developed the proposed amendments, with both the land use map and the transportation system plan updates being developed simultaneously and in an integrated manner. The transportation facilities have been designed according to the relative locations and designation of land uses within the EHVCP area. Existing and proposed arterials and collectors are shown in the EHVCP Map. Locations that require right-in/right-out access are also identified in the EHVCP Map.

The *2035 Traffic Analysis* memorandum dated November 28, 2008 (Exhibit L), estimates future households and residents based on the proposed land use designations and analyzes the transportation facilities required to serve those future populations. The analysis found that the proposed transportation system in the EHVCP Map would provide adequate service to the number of the residents and employees attributed to the maximum development of proposed land use designations. Further, the analysis concluded that the maximum development of the proposed land uses would have little impact on roadway traffic volumes outside of the EHVCP area. In addition to these general findings, several findings for specific roadways were made that support the proposed transportation system in the EHVCP Map. As part of the TSP Update process, all relevant portions of the TSP have been amended to include the proposed transportation system in the EHVCP Map.

Much of the street network in Happy Valley is not well connected. Figure 8-2 of the proposed TSP Update provides the Street Connectivity Plan for Happy Valley. The plan displays recommended opportunities for street connectivity from traditional Happy Valley neighborhoods to the EHVCP area. Specific alignments and street connection design are determined during development review. The TSP provides criteria for local street connections based upon the Metro RTP requirements.

The Happy Valley TSP includes master plans for each transportation mode. All of the elements for a complete transportation system in the greater city limits and the EHVCP area are addressed in these master plans that include: the Pedestrian Plan, the Bicycle Plan, the Transit Plan, and the Motor Vehicle Plan. The master plans have been updated to include the EHVCP area on all maps. Additionally, all transportation projects associated with buildout of the EHVCP Map transportation system are listed, include cost estimates, and assigned a priority rank based on need. Further, each master plan contains an Action Plan that addresses the transportation projects with the highest, short-term need and provides potential funding sources, an estimated schedule, and cost for each project. These projects address performance standards and/or implement the City's transportation policies. Several Action Plan projects are located within the EHVCP area.

All portions of the City's TSP relevant to the proposed Comprehensive Plan amendments have been included in the proposed amendments to the TSP. The proposed TSP is consistent with applicable provisions of the Regional Transportation Plan (RTP) and Title 6 of the Metro Urban Growth Management Functional Plan. The proposed TSP is required by the proposed Development Code to conform to Title 3 natural resource restrictions and protective regulations. In conjunction with the City's Joint Capital Improvement Plan (CIP) shared with Clackamas County, the TSP provides preliminary cost estimates and funding strategies and approaches for the greater TSP area. Therefore, this criterion has been satisfied by the proposed amendments.

Goal 13 (Energy Conservation)

To conserve energy."

Staff Response:

Statewide Planning Goal 13, Energy, declares that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles." The Comprehensive Plan amendment would establish an urban area with convenient access from residential areas to shopping and employment opportunities. The integration of residential areas, commercial centers, and industrial land will enable residents and workers to drive shorter distances and achieve more tasks on the same trip. This reduces the travel/distance fuel consumption and, thereby, contributes to energy conservation. Further, the planned bus routes along the 172nd Avenue and Sunnyside Road corridors will provide access to the EHVCP area and increase mobility within the EHVCP area. Planned pedestrian and bicycle facilities will also increase mobility within the EHVCP area. The availability of transit service and pedestrian and bicycle facilities provide transportation alternatives to motor vehicles and increase travel mode choice. The proposed Comprehensive Plan amendments provide convenient access to commercial areas and decrease trip distance while increasing transportation mode choice. Therefore, this criterion is satisfied by the proposed amendments.

NOTE: The City finds that Goal 3, "Agricultural Land," Goal 4, "Forest Land," and Goals 14-19 are inapplicable. Goals 3 and 4 are resource goals and are inapplicable because the greater subject area is now within the UGB. Goal 14 is inapplicable because the subject area is located within the UGB. Goals 15 through 19 relate to the Willamette River Greenway and Coastal resources and thus, are not applicable to the subject area.

2. The following Oregon Administrative Rules (OAR) are applicable to the subject request:

*"**OAR Chapter 660, Division 7 (Metropolitan Housing)***
660-007-0015
Clear and Objective Approval Standards Required

Local approval standards, special conditions and procedures regulating the development of needed housing must be clear and objective, and must not have the effect, either of themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.

Staff Response:

As reflected within the City's current Development Code, as well as the amendments to the Development Code proposed in File No. LDO-01-09, the City provides for clear and objective standards for housing development through the partition, subdivision, PUD and Design Review (multi-family) regulations and review process, including a fee schedule based on the cost to the City for accepting and processing land use applications. In the amended Development Code, this includes the adoption of standard Type 1-IV types of review procedures (see Chapter 16.61 of File No.LDO-01-09). These processes, fees and clear and objective standards do not discourage needed housing through unreasonable cost or delay. Therefore, this criterion is satisfied by the proposed amendments.

660-007-0018
Specific Plan Designations Required

(1) Plan designations that allow or require residential uses shall be assigned to all buildable land. Such designations may allow nonresidential uses as well as residential uses. Such designations may be considered to be "residential plan designations" for the purposes of this division. The plan designations assigned to buildable land shall be specific so as to accommodate the varying housing types and densities identified in OAR 660-007-0030 through 660-007-0037.
(2) A local government may defer the assignment of specific residential plan designations only when the following conditions have been met:
(a) Uncertainties concerning the funding, location and timing of public facilities have been identified in the local comprehensive plan;
(b) The decision not to assign specific residential plan designations is specifically related to identified public facilities constraints and is so justified in the plan; and
(c) The plan includes a time-specific strategy for resolution of identified public facilities uncertainties and a policy commitment to assign specific residential plan designations when identified public facilities uncertainties are resolved.

Staff Response:

In the proposed Comprehensive Plan Map Amendments, all buildable land within the EHVCP area is assigned a plan designation. The proposed comprehensive plan policies, and the resultant map, are very intentional in providing varying housing types and densities, increasing housing choice, and developing complete neighborhoods. The City's proposed amendments will make these opportunities available to annexed properties immediately upon full completion of the adoption process. Therefore, these criteria are satisfied by the proposed amendments.

660-007-0020
The Rezoning Process

A local government may defer rezoning of land within the urban growth boundary to maximum planned residential density provided that the process for future rezoning is reasonably justified:
(1) The plan must contain a justification for the rezoning process and policies which explain how this process will be used to provide for needed housing.
(2) Standards and procedures governing the process for future rezoning shall be based on the rezoning justification and policy statement, and must be clear and objective.

Staff Response:

All land within the EHVCP area is assigned comprehensive plan designation/zoning in the EHVCP Map (Exhibit H). No deferral is required. Therefore, this criterion is inapplicable to the proposed amendment.

660-007-0022
Restrictions on Housing Tenure

Any local government that restricts the construction of either rental or owner occupied housing on or after its first periodic review shall either justify such restriction by an analysis of housing need according to tenure or otherwise demonstrate that such restrictions comply with ORS 197.303(a) and 197.307(3).

Staff Response:

The City of Happy Valley has no restrictions on the construction of rental or owner occupied housing. Therefore, this criterion is inapplicable to the proposed amendment.

660-007-0030
New Construction Mix

(1) Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances. Factors to be considered in justifying an alternate percentage shall include, but need not be limited to:

(a) Metro forecasts of dwelling units by type;
(b) Changes in household structure, size, or composition by age;

(c) Changes in economic factors impacting demand for single family versus multiple family units; and

(d) Changes in price ranges and rent levels relative to income levels.

(2) The considerations listed in section (1) of this rule refer to county-level data within the UGB and data on the specific jurisdiction.

Staff Response:

In the proposed Development Code Text Amendments (File No.LDO-01-09), all Happy Valley residential districts allow for attached housing, either outright or through planned development reviews. A result of the EHVCP comprehensive planning process is the creation of a new comprehensive plan designation/zoning district to address the need for attached housing, the Single-Family Attached (SFA) residential district. The SFA and the Mixed Use Residential – Multi-Family (MUR-M2) districts accommodate a variety of attached and multi-family housing, while prohibiting new single-family detached residential homes. The proposed Comprehensive Plan amendments will establish buildable land for attached and multi-family housing in SFA and MUR-M2 districts in the EHVCP area. The SFA district allows only attached and multi-family dwellings with fewer than four units per building, while the MUR-M2 district allows only attached and multi-family dwellings. According to the *East Happy Valley Buildable Lands and Residential Capacity Analysis,* the SFA and MUR-M2 district account for 2,366 of the anticipated EHVCP area's 4,717 dwelling unit capacity (Exhibit N). As these districts only allow attached and multi-family housing, at minimum, approximately 50 percent of the assumed residential dwelling unit capacity for EHVCP area is either attached or multi-family housing. The 50 percent figure would increase with any development of attached housing in other residential land use districts. The 50 percent figure would also increase with any housing included as a part of development in commercial and industrial districts that develop at densities with the ability to provide affordable rental housing. The proposed Comprehensive Plan Policy Amendments, Development Code Text Amendments and Comprehensive Plan Map/Zoning Map Amendment and legislative application of the residential designations in the EHVCP Map will provide buildable land for at least 50 percent of the anticipated units in the EHVCP area to be attached single-family or multi-family housing. Therefore, this criterion is satisfied by the proposed amendments.

660-007-0033
Consideration of Other Housing Types

Each local government shall consider the needs for manufactured housing and government assisted housing within the Portland Metropolitan UGB in arriving at an allocation of housing types.

Staff Response:

With the exception of the SFA and MUR-M2 districts, all other residential districts applied in the EHVCP Map allow manufactured housing. Therefore, this criterion is satisfied by the proposed amendments.

660-007-0035
Minimum Residential Density Allocation for New Construction

The following standards shall apply to those jurisdictions which provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing:
(1) The Cities of Cornelius, Durham, Fairview, Happy Valley and Sherwood must provide for an overall density of six or more dwelling units per net buildable acre. These are relatively small cities with some growth potential (i.e. with a regionally coordinated population projection of less than 8,000 persons for the active planning area).
(2) Clackamas and Washington Counties, and the cities of Forest Grove, Gladstone, Milwaukie, Oregon City, Troutdale, Tualatin, West Linn and Wilsonville must provide for an overall density of eight or more dwelling units per net buildable acre.
(3) Multnomah County and the cities of Portland, Gresham, Beaverton, Hillsboro, Lake Oswego and Tigard must provide for an overall density of ten or more dwelling units per net buildable acre. These are larger urbanized jurisdictions with regionally coordinated population projections of 50,000 or more for their active planning areas, which encompass or are near major employment centers, and which are situated along regional transportation corridors.
(4) Regional housing density and mix standards as stated in OAR 660-007-0030 and sections (1), (2), and (3) of this rule do not apply to small developed cities which had less than 50 acres of buildable land in 1977 as determined by criteria used in Metro's UGB Findings. These cities include King City, Rivergrove, Maywood Park, Johnson City and Wood Village.

Staff Response:

According to the *East Happy Valley Buildable Lands and Residential Capacity Analysis*, (Exhibit N) at maximum capacity, the overall residential density of the EHVCP area is estimated to be 9.18 dwelling units per net buildable acre. At 9.18 dwelling units per acre, the EHVCP area will help to increase the overall residential density for the entire City of Happy Valley. Therefore, these criteria are satisfied by the proposed amendments.

660-007-0037
Alternate Minimum Residential Density Allocation for New Construction

The density standards in OAR 660-007-0035 shall not apply to a jurisdiction which justifies an alternative new construction mix under the provisions of OAR 660-007-0030. The following standards shall apply to these jurisdictions:
(1) The jurisdiction must provide for the average density of detached single family housing to be equal to or greater than the density of detached single family housing provided for in the plan at the time of original LCDC acknowledgment.
(2) The jurisdiction must provide for the average density of multiple family housing to be equal to or greater than the density of multiple family housing provided for in the plan at the time of original LCDC acknowledgment.
(3) A jurisdiction which justifies an alternative new construction mix must also evaluate whether the factors in OAR 660-007-0030 support increases in the density of either detached single family or multiple family housing or both. If the evaluation supports increases in density, then necessary amendments to residential plan and zone designations must be made.

Staff Response:

The proposed Comprehensive Plan amendments accommodate the density standards in OAR 660-007-0035. Therefore, these criteria are inapplicable to the proposed amendments.

660-007-0045
Computation of Buildable Lands

(1) The local buildable lands inventory must document the amount of buildable land in each residential plan designation.
(2) The Buildable Land Inventory (BLI): The mix and density standards of OAR 660-007-0030, 660-007-0035 and 660-007-0037 apply to land in a buildable land inventory required by OAR 660-007-0010, as modified herein. Except as provided below, the buildable land inventory at each jurisdiction's choice shall either be based on land in a residential plan/zone designation within the jurisdiction at the time of periodic review or based on the jurisdiction BLI at the time of acknowledgment as updated. Each jurisdiction must include in its computations all plan and/or zone changes involving residential land which that jurisdiction made since acknowledgment. A jurisdiction need not include plan and/or zone changes made by another jurisdiction before annexation to a city. The adjustment of the BLI at the time of acknowledgment shall:
(a) Include changes in zoning ordinances or zoning designations on residential planned land if allowed densities are changed;

(b) Include changes in planning or zoning designations either to or from residential use. A city shall include changes to annexed or incorporated land if the city changed type or density or the plan/zone designation after annexation or incorporation;
(c) The county and one or more city(ies) affected by annexations or incorporations may consolidate buildable land inventories. A single calculation of mix and density may be prepared. Jurisdictions which consolidate their buildable lands inventories shall conduct their periodic review simultaneously;
(d) A new density standard shall be calculated when annexation, incorporation or consolidation results in mixing two or more density standards (OAR 660-007-0035). The calculation shall be made as follows:
(A)(i) BLI Acres x 6 Units/Acre = Num. of Units;
(ii) BLI Acres x 8 Units/Acre = Num. of Units;
(iii) BLI Acres x 10 Units/Acre = Num. of Units;
(iv) Total Acres (TA) -- Total Units (TU).
(B) Total units divided by Total Acres = New Density Standard;
(C) Example:
(i) Cities A and B have 100 acres and a 6-unit-per-acre standard: (100 x 6 = 600 units); City B has 300 acres and a 10-unit-per-acre standard: (300 x 10 = 3000 units); County has 200 acres and an 8-unit-per-acre standard: (200 x 08 = 1600 units); Total acres = 600 -- Total Units = 5200.
(ii) 5200 units divided by 600 acres = 8.66 units per acre standard.
(3) Mix and Density Calculation: The housing units allowed by the plan/zone designations at periodic review, except as modified by section (2) of this rule, shall be used to calculate the mix and density. The number of units allowed by the plan/zone designations at the time of development shall be used for developed residential land.

Staff Response:

The City is scheduled to begin Periodic Review in 2009. The city-wide buildable lands inventory will be updated based upon the buildable land at the time of periodic review. The buildable lands inventory will be updated as appropriate at the time of review. For the EHVCP area, buildable land has been identified consistent with the requirements of Metro Title 11 (see Exhibit N). The city's buildable lands methodology and definitions were coordinated with those developed during the Damascus/Boring Concept Plan, so that the resultant calculations and net density conclusions would be substantially consistent. Therefore, these criteria are satisfied by the proposed amendments.

660-007-0050
Regional Coordination

(1) At each periodic review of the Metro UGB, Metro shall review the findings for the UGB. They shall determine whether the buildable land within the UGB satisfies housing needs by type and density for the region's long-range population and housing projections.
(2) Metro shall ensure that needed housing is provided for on a regional basis through coordinated comprehensive plans.

Staff Response:

These criteria define Metro responsibilities. Therefore, these criteria are inapplicable to the proposed amendment. However, staff notes that the City of Happy Valley and the City of Damascus have both participated in the Damascus-Boring Concept Plan, have jointly participated the review of materials associated with Comprehensive Plan development and have met with Metro staff in regard to sub-regional coordination activities in the greater EHVCP and Damascus planning efforts.

OAR Chapter 660, Division 9 (Economic Development)

660-009-0010
Application

(1) This division applies to comprehensive plans for areas within urban growth boundaries. This division does not require or restrict planning for industrial and other employment uses outside urban growth boundaries. Cities and counties subject to this division must adopt plan and ordinance amendments necessary to comply with this division.
(2) Comprehensive plans and land use regulations must be reviewed and amended as necessary to comply with this division as amended at the time of each periodic review of the plan pursuant to ORS 197.712(3). Jurisdictions that have received a periodic review notice from the Department (pursuant to OAR 660-025-0050) prior to the effective date of amendments to this division must comply with such amendments at their next periodic review unless otherwise directed by the Commission.
(3) Cities and counties may rely on their existing plans to meet the requirements of this division if they conclude:
(a) There are not significant changes in economic development opportunities (e.g., a need for sites not presently provided for in the plan) based on a review of new information about national, state, regional, county and local trends; and

(b) That existing inventories, policies, and implementing measures meet the requirements in OAR 660-009-0015 to 660-009-0030.
(4) For a post-acknowledgement plan amendment under OAR chapter 660, division 18, that changes the plan designation of land in excess of two acres within an existing urban growth boundary from an industrial use designation to a non-industrial use designation, or an other employment use designation to any other use designation, a city or county must address all applicable planning requirements, and:
(a) Demonstrate that the proposed amendment is consistent with its most recent economic opportunities analysis and the parts of its acknowledged comprehensive plan which address the requirements of this division; or
(b) Amend its comprehensive plan to incorporate the proposed amendment, consistent with the requirements of this division; or
(c) Adopt a combination of the above, consistent with the requirements of this division.
(5) The effort necessary to comply with OAR 660-009-0015 through 660-009-0030 will vary depending upon the size of the jurisdiction, the detail of previous economic development planning efforts, and the extent of new information on national, state, regional, county, and local economic trends. A jurisdiction's planning effort is adequate if it uses the best available or readily collectable information to respond to the requirements of this division.
(6) The amendments to this division are effective January 1, 2007. A city or county may voluntarily follow adopted amendments to this division prior to the effective date of the adopted amendments.

Staff Response:

The City is scheduled to begin Periodic Review in 2009. The provisions of this rule that relate to a change to a Comprehensive Plan designation of land in excess of two acres (subsection "4", above) do not relate to the subject request due to the fact that the proposed change s are from Clackamas County EFU, FF10, and RRFF-5 zoning districts to City of Happy Valley zoning districts. Therefore, these criteria are inapplicable to the proposed amendments.

660-009-0015
Economic Opportunities Analysis

Cities and counties must review and, as necessary, amend their comprehensive plans to provide economic opportunities analyses containing the information described in sections (1) to (4) of this rule. This analysis will compare the demand for land for industrial and other employment uses to the existing supply of such land.
(1) Review of National, State, Regional, County and Local Trends. The economic opportunities analysis must identify the major categories of industrial or other employment uses that could

reasonably be expected to locate or expand in the planning area based on information about national, state, regional, county or local trends. This review of trends is the principal basis for estimating future industrial and other employment uses as described in section (4) of this rule. A use or category of use could reasonably be expected to expand or locate in the planning area if the area possesses the appropriate locational factors for the use or category of use. Cities and counties are strongly encouraged to analyze trends and establish employment projections in a geographic area larger than the planning area and to determine the percentage of employment growth reasonably expected to be captured for the planning area based on the assessment of community economic development potential pursuant to section (4) of this rule.

(2) Identification of Required Site Types. The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

(3) Inventory of Industrial and Other Employment Lands. Comprehensive plans for all areas within urban growth boundaries must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use.

(a) For sites inventoried under this section, plans must provide the following information:

(A) The description, including site characteristics, of vacant or developed sites within each plan or zoning district;

(B) A description of any development constraints or infrastructure needs that affect the buildable area of sites in the inventory; and

(C) For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

(b) When comparing current land supply to the projected demand, cities and counties may inventory contiguous lots or parcels together that are within a discrete plan or zoning district.

(c) Cities and counties that adopt objectives or policies providing for prime industrial land pursuant to OAR 660-009-0020(6) and 660-009-0025(8) must identify and inventory any vacant or developed prime industrial land according to section 3(a) of this rule.

(4) Assessment of Community Economic Development Potential. The economic opportunities analysis must estimate the types and amounts of industrial and other employment uses likely to occur in the planning area. The estimate must be based on information generated in response to sections (1) to (3) of this rule and must consider the planning area's economic advantages and disadvantages. Relevant economic advantages and disadvantages to be considered may include but are not limited to:

(a) Location, size and buying power of markets;
(b) Availability of transportation facilities for access and freight mobility;
(c) Public facilities and public services;
(d) Labor market factors;
(e) Access to suppliers and utilities;
(f) Necessary support services;
(g) Limits on development due to federal and state environmental protection laws; and
(h) Educational and technical training programs.

(5) Cities and counties are strongly encouraged to assess community economic development potential through a visioning or some other public input based process in conjunction with state agencies. Cities and counties are strongly encouraged to use the assessment of community economic development potential to form the community economic development objectives pursuant to OAR 660-009-0020(1)(a).

Staff Response:

The proposed Comprehensive Plan amendments involve the application of the Industrial Campus (IC) and Employment Center (EC) zone districts that are compatible with the RSIA Opportunity Site and Mixed Employment designation of the Damascus/Boring Concept Plan, which was inclusive of an extensive two-year visioning/citizen involvement project done in conjunction with state agencies. The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this administrative rule. The location and type of employment related designation have been planned in response to economic opportunities as identified by the City from a local perspective, and, consistent with broader scale planning in the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan. The EC designation/zone adjacent to 162nd Avenue provides land for medical related uses adjacent to the planned Providence Medical Center and greater RC-ME zoned area. The IC designation/zone in the southern part of the EHVCP is responsive to the larger lot and less sloped lands near to the existing Hwy. 212 and planned Sunrise Corridor. These factors were prioritized by participants in the Concept Planning process, which designated the same area for industrial employment. The EC designation on the east side of 172nd Avenue (also in the southern EHVCP area) provides for higher density employment intended to supplement the larger lot IC lands. The EC area in the northern part of EHVCP is consistent with the Damascus Boring Concept Plan and is an extension of the adjacent employment area in Pleasant Valley. Therefore, these criteria are satisfied by the proposed amendments.

660-009-0020
Industrial and Other Employment Development Policies

(1) Comprehensive plans subject to this division must include policies stating the economic development objectives for the planning area. These policies must be based on the community economic opportunities analysis prepared pursuant to OAR 660-009-0015 and must provide the following:

(a) Community Economic Development Objectives. The plan must state the overall objectives for economic development in the planning area and identify categories or particular types of industrial and other employment uses desired by the community. Policy objectives may identify the level of short-term supply of land the planning area needs. Cities and counties are strongly encouraged to select a competitive short-term supply of land as a policy objective.

(b) Commitment to Provide a Competitive Short-Term Supply. Cities and counties within a Metropolitan Planning Organization must adopt a policy stating that a competitive short-term supply of land as a community economic development objective for the industrial and other employment uses selected through the economic opportunities analysis pursuant to OAR 660-009-0015.

(c) Commitment to Provide Adequate Sites and Facilities. The plan must include policies committing the city or county to designate an adequate number of sites of suitable sizes, types and locations. The plan must also include policies, through public facilities planning and transportation system planning, to provide necessary public facilities and transportation facilities for the planning area.

(2) Plans for cities and counties within a Metropolitan Planning Organization or that adopt policies relating to the short-term supply of land, must include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed. These policies must describe dates, events or both, that trigger local review of the short-term supply of land.

(3) Plans may include policies to maintain existing categories or levels of industrial and other employment uses including maintaining downtowns or central business districts.

(4) Plan policies may emphasize the expansion of and increased productivity from existing industries and firms as a means to facilitate local economic development.

(5) Cities and counties are strongly encouraged to adopt plan policies that include brownfield redevelopment strategies for retaining land in industrial use and for qualifying them as part of the local short-term supply of land.

(6) Cities and counties are strongly encouraged to adopt plan policies pertaining to prime industrial land pursuant to OAR 660-009-0025(8).

(7) Cities and counties are strongly encouraged to adopt plan policies that include additional approaches to implement this division including, but not limited to:

(a) Tax incentives and disincentives;

(b) Land use controls and ordinances;
(c) Preferential tax assessments;
(d) Capital improvement programming;
(e) Property acquisition techniques;
(f) Public/private partnerships; and
(g) Intergovernmental agreements.

Staff Response:

The proposed Comprehensive Plan amendments include the addition of Comprehensive Plan policies to be added to the City's existing Comprehensive Plan policies. These policies, combined with the proposed Comprehensive Plan Map/Zoning Map amendment will add approximately 220 net buildable acres of employment and industrial lands, which demonstrates a commitment to provide a competitive short-term supply of employment land. As observed, the proposed Comprehensive Plan amendments involve the application of the IC and EC zone districts that are compatible with the RSIA Opportunity Site and Mixed Employment designation of the Damascus/Boring Concept Plan. The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this administrative rule. Therefore, these criteria are satisfied by the proposed amendments.

660-009-0025
Designation of Lands for Industrial and Other Employment Uses

Cities and counties must adopt measures adequate to implement policies adopted pursuant to OAR 660-009-0020. Appropriate implementing measures include amendments to plan and zone map designations, land use regulations, public facility plans, and transportation system plans.
(1) Identification of Needed Sites. The plan must identify the approximate number, acreage and site characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies. Plans do not need to provide a different type of site for each industrial or other employment use. Compatible uses with similar site characteristics may be combined into broad site categories. Several broad site categories will provide for industrial and other employment uses likely to occur in most planning areas. Cities and counties may also designate mixed-use zones to meet multiple needs in a given location.
(2) Total Land Supply. Plans must designate serviceable land suitable to meet the site needs identified in section (1) of this rule. Except as provided for in section (5) of this rule, the total acreage of land designated must at least equal the total projected land needs for each industrial or other employment use category identified in the plan during the 20-year planning period.

(3) Short-Term Supply of Land. Plans for cities and counties within a Metropolitan Planning Organization or cities and counties that adopt policies relating to the short-term supply of land must designate suitable land to respond to economic development opportunities as they arise. Cities and counties may maintain the short-term supply of land according to the strategies adopted pursuant to OAR 660-009-0020(2).

(a) Except as provided for in subsections (b) and (c), cities and counties subject to this section must provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply.

(b) Affected cities and counties that are unable to achieve the target in subsection (a) above may set an alternative target based on their economic opportunities analysis.

(c) A planning area with 10 percent or more of the total land supply enrolled in Oregon's industrial site certification program pursuant to ORS 284.565 satisfies the requirements of this section.

(4) If cities and counties are required to prepare a public facility plan or transportation system plan by OAR chapter 660, division 011 or division 012, the city or county must complete subsections (a) to (c) of this section at the time of periodic review. Requirements of this rule apply only to city and county decisions made at the time of periodic review. Subsequent implementation of or amendments to the comprehensive plan or the public facility plan that change the supply of serviceable land are not subject to the requirements of this section. Cities and counties must:

(a) Identify serviceable industrial and other employment sites. The affected city or county in consultation with the local service provider, if applicable, must make decisions about whether a site is serviceable. Cities and counties are encouraged to develop specific criteria for deciding whether or not a site is serviceable. Cities and counties are strongly encouraged to also consider whether or not extension of facilities is reasonably likely to occur considering the size and type of uses likely to occur and the cost or distance of facility extension;

(b) Estimate the amount of serviceable industrial and other employment land likely to be needed during the planning period for the public facilities plan. Appropriate techniques for estimating land needs include but are not limited to the following:

(A) Projections or forecasts based on development trends in the area over previous years; and

(B) Deriving a proportionate share of the anticipated 20-year need specified in the comprehensive plan.

(c) Review and, if necessary, amend the comprehensive plan and the public facilities plan to maintain a short-term supply of land. Amendments to implement this requirement include but are not limited to the following:

(A) Changes to the public facilities plan to add or reschedule projects to make more land serviceable;

(B) Amendments to the comprehensive plan that redesignate additional serviceable land for industrial or other employment use; and

(C) Reconsideration of the planning area's economic development objectives and amendment of plan objectives and policies based on public facility limitations.

(d) If a city or county is unable to meet the requirements of this section, it must identify the specific steps needed to provide expanded public facilities at the earliest possible time.

(5) Institutional Uses. Cities and counties are not required to designate institutional uses on privately owned land when implementing section (2) of this rule. Cities and counties may designate land in an industrial or other employment land category to compensate for any institutional land demand that is not designated under this section.

(6) Compatibility. Cities and counties are strongly encouraged to manage encroachment and intrusion of uses incompatible with industrial and other employment uses. Strategies for managing encroachment and intrusion of incompatible uses include, but are not limited to, transition areas around uses having negative impacts on surrounding areas, design criteria, district designation, and limiting non-essential uses within districts.

(7) Availability. Cities and counties may consider land availability when designating the short-term supply of land. Available land is vacant or developed land likely to be on the market for sale or lease at prices consistent with the local real estate market. Methods for determining lack of availability include, but are not limited to:

(a) Bona fide offers for purchase or purchase options in excess of real market value have been rejected in the last 24 months;

(b) A site is listed for sale at more than 150 percent of real market values;

(c) An owner has not made timely response to inquiries from local or state economic development officials; or

(d) Sites in an industrial or other employment land category lack diversity of ownership within a planning area when a single owner or entity controls more than 51 percent of those sites.

(8) Uses with Special Siting Characteristics. Cities and counties that adopt objectives or policies providing for uses with special site needs must adopt policies and land use regulations providing for those special site needs. Special site needs include, but are not limited to large acreage sites, special site configurations, direct access to transportation facilities, prime industrial lands, sensitivity to adjacent land uses, or coastal shoreland sites designated as suited for water-dependent use under Goal 17. Policies and land use regulations for these uses must:

(a) Identify sites suitable for the proposed use;

(b) Protect sites suitable for the proposed use by limiting land divisions and permissible uses and activities that interfere with development of the site for the intended use; and

(c) Where necessary, protect a site for the intended use by including measures that either prevent or appropriately restrict incompatible uses on adjacent and nearby lands.

Staff Response:

The proposed Comprehensive Plan amendments involve the application of the IC and EC zone districts that are compatible with the RSIA Opportunity Site and Mixed Employment designation of the Damascus/Boring Concept Plan. The proposed Comprehensive Plan amendments also establish the following mixed use zones MCC, CCC, MUR-M2, and MUR-S to meet multiple needs in the EHVCP area. The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this administrative rule. In addition, a TSP Update by the City covers transportation planning for the greater subject area, and the provision of service plans and/or master plans by the city's service providers – CCSD#1 and Sunrise Water Authority (see Exhibits O and P) detail the provision or planned provision of necessary sanitary/storm sewer and domestic water infrastructure to service future development. Therefore, these criteria are satisfied by the proposed amendments.

OAR Chapter 660, Division 12 (Transportation Planning)

660-012-0060
Plan and Land Use Regulation Amendments

(1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) As measured at the end of the planning period identified in the adopted transportation system plan:

(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or

(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.

(2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:

(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.

(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

(d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.

(e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.

(3) Notwithstanding sections (1) and (2) of this rule, a local government may approve an amendment that would significantly affect an existing transportation facility without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility where:

(a) The facility is already performing below the minimum acceptable performance standard identified in the TSP or comprehensive plan on the date the amendment application is submitted;

(b) In the absence of the amendment, planned transportation facilities, improvements and services as set forth in section (4) of this rule would not be adequate to achieve consistency with the identified function, capacity or performance standard for that facility by the end of the planning period identified in the adopted TSP;

(c) Development resulting from the amendment will, at a minimum, mitigate the impacts of the amendment in a manner that avoids further degradation to the performance of the facility by the time of the development through one or a combination of transportation improvements or measures;

(d) The amendment does not involve property located in an interchange area as defined in paragraph (4)(d)(C); and

(e) For affected state highways, ODOT provides a written statement that the proposed funding and timing for the identified mitigation improvements or measures are, at a minimum, sufficient to avoid further degradation to the performance of the affected state highway. However, if a local government provides the appropriate ODOT regional office with written notice of a proposed amendment in a manner that provides ODOT reasonable opportunity to submit a written statement into the record of the local government proceeding, and ODOT does not provide a written statement, then the local government may proceed with applying subsections (a) through (d) of this section.

(4) Determinations under sections (1)-(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.

(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:

(A) Transportation facilities, improvements or services that are funded for construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.

(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.

(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.

(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.

(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a

written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.

(c) Within interstate interchange areas, the improvements included in (b)(A)-(C) are considered planned facilities, improvements and services, except where:

(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or

(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.

(d) As used in this section and section (3):

(A) Planned interchange means new interchanges and relocation of existing interchanges that are authorized in an adopted transportation system plan or comprehensive plan;

(B) Interstate highway means Interstates 5, 82, 84, 105, 205 and 405; and

(C) Interstate interchange area means:

(i) Property within one-half mile of an existing or planned interchange on an Interstate Highway as measured from the center point of the interchange; or

(ii) The interchange area as defined in the Interchange Area Management Plan adopted as an amendment to the Oregon Highway Plan.

(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)-(C) to determine whether there is a significant effect that requires application of the remedies in section (2).

(5) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-004-0022 and 660-004-0028.

(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in 0060(1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in (a)-(d) below;

(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published

estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;

(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in (a);

(c) Where a local government assumes or estimates lower vehicle trip generation as provided in (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in 0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and

(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.

(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in (a)-(c) below shall include an amendment to the comprehensive plan, transportation system plan the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in Section 0020(2)(b) and Section 0045(3) of this division:

(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;

(b) The local government has not adopted a TSP or local street plan which complies with Section 0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and

(c) The proposed amendment would significantly affect a transportation facility as provided in 0060(1).

(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:

(a) Any one of the following:

(A) An existing central business district or downtown;

(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;

(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or

(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.

(b) An area other than those listed in (a) which includes or is planned to include the following characteristics:

(A) A concentration of a variety of land uses in a well-defined area, including the following:

(i) Medium to high density residential development (12 or more units per acre);

(ii) Offices or office buildings;

(iii) Retail stores and services;

(iv) Restaurants; and

(v) Public open space or private open space which is available for public use, such as a park or plaza.

(B) Generally include civic or cultural uses;

(C) A core commercial area where multi-story buildings are permitted;

(D) Buildings and building entrances oriented to streets;

(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;

(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;

(G) One or more transit stops (in urban areas with fixed route transit service); and

(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services."

Staff Response:

The transition of land within the EHVCP area from rural to urban land use designations will impact the existing transportation system and require the provision of new transportation facilities. In conformance with *660-012-0060(2)(b)*, Staff is proposing an update to the City's TSP. The purpose of the TSP Update is to address recent growth within the City and ensure that transportation system plans can adequately serve growth in the expanded city limits, including the EHVCP area and adjacent growth areas of Pleasant Valley/Springwater (Gresham), and Damascus. The TSP Update also confirms consistency with the Regional Transportation Plan and Statewide Planning Policies. Further, the TSP Update is aimed at fulfilling the City's transportation policies and the requirements of the Transportation Planning Rule (TPR) for comprehensive transportation planning.

The EHVCP Map represents an integrated land use and transportation plan. Beginning with the Pleasant Valley and Damascus/Boring Concept Plans, the land use designations were developed in an iterative manner with the planning for multi-modal transportation facilities. The process continued as the City developed the proposed amendments, with both the land use map and the transportation system plan updates being developed simultaneously and in an integrated manner. The transportation facilities have been designed according to the relative locations and designation of land uses within the EHVCP area. Existing and proposed arterials and collectors are shown in the EHVCP Map. Locations that require right-in/right-out access are also identified in the EHVCP Map.

The *2035 Traffic Analysis* memorandum dated November 28, 2008 (Exhibit L), estimates future households and residents based on the proposed land use designations and analyzes the transportation facilities required to serve those future populations. The analysis found that the proposed transportation system in the EHVCP Map would provide adequate service to the number of the residents and employees attributed to the maximum development of proposed land use designations. Further, the analysis concluded that the maximum development of the proposed land uses would have little impact on roadway traffic volumes outside of the EHVCP area. In addition to these general findings, several findings for specific roadways were made that support the proposed transportation system in the EHVCP Map. As part of the TSP Update process, all relevant portions of the TSP have been amended to include the proposed transportation system in the EHVCP Map.

Much of the street network in Happy Valley is not well connected. Figure 8-2 of the proposed TSP Update provides the Street Connectivity Plan for Happy Valley. The plan displays recommended opportunities for street connectivity from traditional Happy Valley neighborhoods to the EHVCP area. Specific alignments and street connection design are determined during development review. The TSP provides criteria for local street connections based upon the Metro RTP requirements.

The Happy Valley TSP includes master plans for each transportation mode. All of the elements for a complete transportation system in East Happy Valley are addressed in these master plans that include: the Pedestrian Plan, the Bicycle Plan, the Transit Plan, and the Motor Vehicle Plan. The master plans have been updated to include the EHVCP area on all maps. Additionally, all transportation projects associated with buildout of the EHVCP Map transportation system are listed, include cost estimates, and assigned a priority rank based on need. Further, each master plan contains an Action Plan that addresses the transportation projects with the highest, short-term need and provides potential funding sources, an estimated schedule, and cost for each project. These projects address performance standards and/or implement the City's transportation policies. Several Action Plan projects are located within the EHVCP area.

All portions of the City's Transportation System Plan (TSP) relevant to the proposed Comprehensive Plan amendments have been included in the proposed amendments to the TSP. The proposed Transportation System Plan (TSP) is consistent with applicable provisions of the Regional Transportation Plan (RTP) and Title 6 of the Urban Growth Management Functional Plan. The proposed TSP is required by the proposed Development Code to conform with Title 3 natural resource restrictions and protective regulations. In conjunction with the City's Joint Capital Improvement Plan (CIP) shared with Clackamas County, the TSP provides preliminary cost estimates and funding strategies and approaches for the greater TSP area. Therefore, this criterion has been satisfied by the proposed amendments. Therefore, this criterion is satisfied by the proposed amendments.

3. The following Titles from METRO Chapter 3.07 (Urban Growth Management Functional Plan) are applicable to this request:

"Title 3 (Water Quality and Flood Management).

3.07.310 Intent

To protect the beneficial water uses and functions and values of resources within the Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.

Staff Response:

Current standards required from both the City of Happy Valley and its service provider (Clackamas County Water Environment Services) provide protection of wetland and riparian resources and their buffer areas. Adoption of Draft Chapter 16.34 (File No.LDO-01-09) will incorporate WES buffer standards into city code and will allow the city to provide a level of protection for Water Quality Resources comparable to that currently afforded by Clackamas County. In terms of Goal 6 Water Quality Resources, as implemented by Metro's Title 3, the updated standards will provide the City with substantial compliance with the requirements of Title 3. Therefore, this criterion is satisfied by the proposed amendments.

Title 4 (Industrial and Other Employment Areas)

3.07.410 Purpose and Intent

The Regional Framework Plan calls for a strong economic climate. To improve the region's economic climate, Title 4 seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant and Industrial Areas (RSIAs), Industrial and Employment Areas. Title 4 also seeks to provide the benefits of "clustering" of those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks to protect the capacity and efficiency of the region's transportation system for the movement of goods and services and to encourage the location of the types of employment in Centers, Employment Areas, Corridors, Main Streets and Station Communities. The Metro Council will evaluate the effectiveness of Title 4 in achieving these purposes as part of its periodic analysis of the capacity of the urban growth boundary.

[...]

3.07.420 Protection of Regionally Significant Industrial Areas

A. Regionally Significant Industrial Areas (RSIAs) are those areas near the region's most significant transportation facilities for the movement of freight and other areas most suitable for movement and storage of goods. Each city and county with land use planning authority over RSIAs shown on the Employment and Industrial Areas Map shall derive specific plan designation and zoning district boundaries of RSIAs within its jurisdiction from the Map, taking into account the location of existing uses that would not conform to the limitations on non-industrial uses in this section and the need to achieve a mix of employment uses.

B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the size and location of new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers – such as financial, insurance, real estate, legal, medical and dental offices - to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:
1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and
2. Training facilities whose primary purpose is to provide training to meet industrial needs.
C. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the siting and location of new buildings for the uses described in subsection B and for non-industrial uses that do not cater to daily customers—such as banks or insurance processing centers—to ensure that such uses do not reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on Metro's Freight Network Map, November, 2003, below standards set in the 2004 Regional Transportation Plan or require added road capacity to prevent falling below the standards.
D. No city or county shall amend its land use regulations that apply to lands shown as RSIA on the Employment and Industrial Areas Map to authorize uses described in subsection B that were not authorized prior to July 1, 2004.
E. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:
1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.
2. Lots or parcels larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.
3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph 2 of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed, with uses described in subsection B of this section.
4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:
a. To provide public facilities and services;

b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or
d. To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.
F. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add up to 20 percent more floor area and 10 percent more land area. Notwithstanding subsection E of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to July 1, 2004.

Staff Response:

The Damascus/Boring Concept Plan cites the Metro assumption for 364 net buildable acres of Regionally Significant Industrial Area (RSIA) within the Concept Plan area. "Metro has given direction that it would like an amount close to 364 net buildable acres, but they are flexible on location; i.e. the sites originally identified by Metro do not have to be the sites recommended" (Report on the Damascus/Boring Concept Plan, pg. 143). The Damascus/Boring Concept Plan identified 434 net buildable acres of land as RSIA Opportunity Sites. Of these, approximately 122 net buildable acres were identified within the City of Happy Valley (Report on the Damascus/Boring Concept Plan, pg. 149). The proposed IC land use district conforms to the requirements of Title 4 for the protection of Regionally Significant Industrial Areas. The *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N) found approximately 111 net buildable acres of IC zoned land in the EHVCP area. 111 net buildable acres is 91 percent of the Damascus/Boring Concept Plan estimated 122 net buildable acres. For the entire Damascus/Boring Concept Plan Area, 91 percent of the 434 net buildable acres of RSIA Opportunity Sites would yield 395 net buildable acres of RSIA compliant land. This number remains higher than the Metro assumption; therefore, the proposed amendments are consistent with Metro assumptions for Title 4 RSIA land.

From a location perspective, the proposed IC designations/zones are generally consistent with the RSIA designations on the Metro Title 4 map and the Damascus Boring Concept Plan: the proposed IC lands are clustered in the southern part of the EHVCP Map. The IC designation is responsive to the larger lot and less sloped lands near the existing Hwy. 212 corridor and planned Sunrise Corridor. These factors were prioritized by participants in the Concept Planning process, which designated the same area for industrial employment. The EHVCP Map differs from the

RSIA designations on the Metro Title 4 Map in two areas: a site on the east side of 162nd Avenue (across from the planned Providence Medical Center site) and a site on the east side of 172nd Avenue (north of Rock Creek Boulevard). In the first case (162nd site), the purpose of the proposed EC designation is to provide land for medical clinics and similar uses adjacent to the planned medical center. In the second case (east of 172nd site), the purpose is to provide for more employment density that would be expected by IC land, and, promote compatibility with adjacent residential uses. Additionally, two small mixed use centers (designated CCC) are provided to serve this area, consistent with the Damascus-Boring Concept Plan.

The proposed IC zoning district contains specific language limiting commercial retail use within the district consistent with the provisions of Metro Functional Plan Section 3.07.420.B. and the division of parcels within the district is consistent with the provisions of Metro Functional Plan Section 3.07.420.E. The City's proposed IC zone was based upon the RSIA ordinance that was adopted for the Springwater area in Gresham. This ordinance was acknowledged by Metro staff as a good model for RSIA compliance. The efforts afforded by the Damascus-Boring Concept Plan and the proposed Comprehensive Plan amendments; Development Code Text Amendments; and legislative application of the proposed IC zoning district equate to the provision of RSIA per the Purpose and Intent section of Title 4. Therefore, these criteria are satisfied by the proposed amendments.

3.07.430 Protection of Industrial Areas

A. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for retail commercial uses—such as stores and restaurants—and retail and professional services that cater to daily customers—such as financial, insurance, real estate, legal, medical and dental offices—in order to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 5,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:
1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and
2. Training facilities whose primary purpose is to provide training to meet industrial needs.
B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway

Connectors shown on Metro's Freight Network Map, November, 2003. Such measures may include, but are not limited to, restrictions on access to freight routes and connectors, siting limitations and traffic thresholds. This subsection does not require cities and counties to include such measures to limit new other buildings or uses.
C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.
D. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:
1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.
2. Lots or parcels larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.
3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed with uses described in subsection A of this section.
4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:
a. To provide public facilities and services;
b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or
d. To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.
E. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add up to 20 percent more floorspace and 10 percent more land area.

Staff Response:

The proposed Comprehensive Plan amendments are generally consistent with the Damascus/Boring Concept Plan and Metro Title 4 Industrial designations in the establishment of the location of industrial land. In the southern part of the EHVCP Map, the City reviewed

property owner requests for re-designation/re-zoning, and concluded that the proposed pattern of IC and R7 was the best balance of employment needs and local site specific conditions. In the northern part of the EHVCP Map, the City determined the proposed EC designation/zone was appropriate because it was similar to the adjacent employment designation in Pleasant Valley and responsive to the lack of transportation facilities in the area. Therefore, these criteria are satisfied by the proposed amendments.

3.07.440 Protection of Employment Areas

A. Except as provided in subsections C, D and E, in Employment Areas mapped pursuant to Metro Code Section 3.07.130, cities and counties shall limit new and expanded commercial retail uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Employment Areas.
B. Except as provided in subsections C, D and E, a city or county shall not approve a commercial retail use in an Employment Area with more than 60,000 square feet of gross leasable area in a single building, or commercial retail uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel, or on contiguous lots or parcels, including those separated only by transportation right-of-way.
C. A city or county whose zoning ordinance applies to an Employment Area and is listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if the ordinance authorized those uses on January 1, 2003.
D. A city or county whose zoning ordinance applies to an Employment Area and is not listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if:
1. The ordinance authorized those uses on January 1, 2003;
2. Transportation facilities adequate to serve the commercial retail uses will be in place at the time the uses begin operation; and
3. The comprehensive plan provides for transportation facilities adequate to serve other uses planned for the Employment Area over the planning period.
E. A city or county may authorize new commercial retail uses with more than 60,000 square feet of gross leasable area in Employment Areas if the uses:
1. Generate no more than a 25 percent increase in sitegenerated vehicle trips above permitted non-industrial uses; and
2. Meet the Maximum Permitted Parking – Zone A requirements set forth in Table 3.07-2 of Title 2 of the Urban Growth Management Functional Plan.

Staff Response:

The Damascus/Boring Concept Plan process modified the Metro Title 4 employment designation along the 172nd corridor. The amount of EC zoned land in the EHVCP Map is greater than the amount of Mixed Employment land designated in the Damascus/Boring Concept Plan. Some of the land envisioned as either Residential or Industrial/RSIA Opportunity Site in the Damascus/Boring Concept Plan has been designated EC in the EHVCP Map. The EC land use district designation is consistent with the requirements of Title 4 in the protection of employment areas. The *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N) found approximately 109 net buildable acres of EC zoned land in the EHVCP area. The EC land use district will provide land for quality business parks in East Happy Valley. The EHVCP Map locates two EC sites in the area designated RSIA in the Metro Title 4 Design Types Map: a site on the east side of 162nd Avenue (across from the planned Providence medical center site) and a site on the east side of 172nd Avenue (north of Rock Creek Boulevard). In the first case (162nd site), the purpose of the proposed EC designation is to provide land for medical clinics and similar uses adjacent to the medical center. In the second case (east of 172nd site), the purpose is to provide for more employment density that would be expected by IC land, and, promote compatibility with adjacent residential uses. In the northern part of the EHVCP Map, the City determined the proposed EC designation was appropriate because it was similar to the adjacent employment designation in Pleasant Valley and responsive to the lack of transportation facilities in the area. The efforts afforded by the Damascus/Boring Concept Plan and the proposed Comprehensive Plan amendments; Development Code Text Amendment; and legislative application of the EC zoning district equate to the provision of Employment Area per the Purpose and Intent section of Title 4. Therefore, these criteria are satisfied by the proposed amendments.

Title 11 (Planning for New Urban Areas)

[…]

3.07.1120 Planning for Territory Added to the UGB

All territory added to the UGB as either a major amendment or a legislative amendment pursuant to Metro Code Chapter 3.01 shall be subject to adopted comprehensive plan provisions consistent with the requirements of all applicable titles of the Metro Urban Growth Management Functional Plan and in particular this Title 11. The comprehensive plan provisions shall be fully coordinated with all other applicable plans. The comprehensive plan provisions shall contain an urban growth plan diagram and policies that demonstrate compliance with the RUGGO,

including the Metro Council adopted 2040 Growth Concept design types. Comprehensive plan amendments shall include:

A. Specific plan designation boundaries derived from the general boundaries of design type designations assigned by the Council in the ordinance adding the territory to the UGB.

Staff Response:

The proposed specific plan designation boundaries in the EHVCP Map (Exhibit H) are in keeping with the general location of boundaries for Residential, Centers, and Employment design types, as illustrated within the excerpt of the Damascus/Boring Concept Plan (Exhibit C). The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan (Exhibit D). Therefore, this criterion has been satisfied by the proposed amendments.

B. Provision for annexation of the district and to a city or any necessary service districts prior to urbanization of the territory or incorporation of a city or necessary service districts to provide all urban services.

Staff Response:

As shown in the current City of Happy Valley Land Use Zoning Map (Exhibit B), lands located within the subject area are for the most part zoned Clackamas County RRFF-5 (five acre minimum parcel size), FF-10 (10-acre minimum parcel size) or Exclusive Farm Use (EFU). Thus, any property within the EHVCP area that is within the city limits via previous annexation will be significantly "upzoned" from a County farm or rural-residential zone to a City urban zone. Several properties within the EHVCP area are not currently located within the city limits. Should those properties opt to annex, staff has proposed changes to the Development Code that would convert the existing Clackamas County zone to the zone adopted within the EHVCP Map. Further, prior to or concurrent with annexation to the City, the property will be required to annex to any pertinent service provider's boundaries. However, it should be noted that per the City's IGA with Clackamas County, none of the non-annexed lands would be able to do any land division or provide any use outside of the parameters of the underlying County zone. That is, non-annexed lands in unincorporated Clackamas County are not able to development to urban standards without being in the City and its applicable service districts. Therefore, this criterion has been satisfied by the proposed amendments.

C. Provision for average residential densities of at least 10 dwelling units per net developable residential acre or such other densities that the Council specifies pursuant to section 3.01.040 of the Urban Growth Management Functional Plan.

Staff Response:

The Damascus/Boring Concept Plan found an average 10.1 dwelling units per net buildable residential acre for the entire Damascus/Boring Concept Plan area (Report on the Damascus/Boring Concept Plan, pg. 149). To reach 10.1 dwelling units per net buildable residential acre for the entire Damascus/Boring Concept Plan area, the Happy Valley portion of the Damascus/Boring Concept Plan area accommodated 9.1 dwelling units per net buildable acre. The Damascus portion of the Damascus/Boring Concept Plan area accommodated 10.4 dwelling units per net buildable acre and the Gresham portion accommodated four dwelling units per net buildable acre. As determined in the *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N), at maximum capacity, the residentially zoned land will produce an average density for the EHVCP area of 9.18 dwelling units per net buildable acre. This average is influenced by the large areas of low density zoning in sensitive environmental areas, principally the Scouters Mountain region. When the R-20, R-15 and R-10 designated lands to the west of the existing 162nd Avenue and the proposed 162nd connection around the base of Scouters Mountain are removed from the EHVCP residential capacity calculations, the average density of the remaining area is approximately 14 dwelling units per net buildable residential acre (3,889 dwelling units on 283 net buildable residential acres). This number is an approximation of the average net residential densities in the lower elevation areas of the 172nd Avenue corridor. Therefore, this criterion has been satisfied by the proposed amendments.

D. Demonstrable measures that will provide a diversity of housing stock that will fulfill needed housing requirements as defined by ORS 197.303. Measures may include, but are not limited to, implementation of recommendations in Title 7 of the Urban Growth Management Functional Plan.

Staff Response:

The EHVCP Map (Exhibit H) includes eight different designations for residential districts. These districts allow for a variety of housing types that include: single-family detached homes, single-family attached homes (townhouses and row houses), multi-family units (duplexes, triplexes, apartments, and condominiums), and mixed use buildings with residential uses. The districts will also create variety in neighborhood character by establishing a range of lot sizes that will lead to variation in residential density. Limited residential uses are allowed in the proposed

commercial and industrial districts. In the MCC and CCC districts, residential and commercial uses would be allowed in either a vertical or horizontal mix of uses. Residential uses would be allowed on the upper floors of buildings in the EC district. The proposed Comprehensive Plan Policy Amendments, Development Code Text Amendments and Comprehensive Plan Map/Zoning Map Amendment and legislative application of the residential designations in the EHVCP Map will provide diversity in the EHVCP area housing stock through the combination of lot size variation, residential housing type, and mixed use opportunities. Therefore, this criterion is satisfied by the proposed amendments.

E. Demonstration of how residential developments will include, without public subsidy, housing affordable to households with incomes at or below area median incomes for home ownership and at or below 80 percent of area median incomes for rental as defined by U.S. Department of Housing and Urban Development for the adjacent urban jurisdiction. Public subsidies shall not be interpreted to mean the following: density bonuses, streamlined permitting processes, extensions to the time at which systems development charges (SDCs) and other fees are collected, and other exercises of the regulatory and zoning powers.

Staff Response:

As part of the Damascus/Boring concept planning effort, Metro provided a memo, *Damascus/Boring Concept Plan Affordable Housing Analysis*, dated May 11, 2005. The analysis concluded that only attached single-family owner occupied homes were affordable to households at 90 to 100 percent of the median family income for the Portland Metropolitan Area. According to the same memo from Metro, medium and high density ($\geq$ 24 du/ac) multi-family residential land use districts provide affordable rental housing. Staff has proposed appropriate amendments to the Land Development Code that respond to Comprehensive Plan policy amendments in the administration of residential districts. In the proposed Development Code Text Amendments (File No.LDO-01-09), all Happy Valley residential districts allow for attached housing, either outright or through planned development reviews. A result of the EHVCP process is the creation of a new comprehensive plan designation/zoning district to address the need for attached housing, the SFA district. The SFA and Mixed Use Residential – Multi-Family (MUR-M2) districts accommodate a variety of attached and multi-family housing, while prohibiting new single-family detached residential homes. The proposed Comprehensive Plan amendments will establish buildable land for attached and multi-family housing in SFA and MUR-M2 districts in the EHVCP area. The SFA district allows only attached and multi-family dwellings with fewer than four units per building, while the MUR-M2 district allows only attached and multi-family dwellings. According to the *East Happy Valley Buildable Lands and Residential Capacity Analysis,* (Exhibit N) the SFA and MUR-M2 district account for 2,366 of

the anticipated EHVCP area's 4,717 dwelling unit capacity. As these districts only allow attached and multi-family housing, at minimum, approximately 50 percent of the assumed residential dwelling unit capacity for EHVCP area is either attached or multi-family housing. The 50 percent figure would increase with any development of attached housing in other residential land use districts. The 50 percent figure would also increase with any housing included as a part of development in commercial and industrial districts that develop at densities with the ability to provide affordable rental housing. In addition, an existing section within the City's Development Code, re-organized as Section 16.44.060 (Affordable Housing) in File No.LDO-01-09 provides multiple opportunities for development driven density bonuses designed to encourage and accommodate affordable housing. The proposed Comprehensive Plan Policy Amendments and Comprehensive Plan Map/Zoning Map Amendment and legislative application of the residential designations in the EHVCP Map will provide buildable land for owner and renter occupied affordable housing. Therefore, this criterion is satisfied by the proposed amendments.

F. *Provision for sufficient commercial and industrial development for the needs of the area to be developed consistent with 2040 Growth Concept design types. Commercial and industrial designations in nearby areas inside the Urban Growth Boundary shall be considered in comprehensive plans to maintain design type consistency.*

Staff Response:

The application of the proposed IC and EC districts to the EHVCP area will implement the planned Industrial and Mixed Employment designations of the Damascus/Boring Concept Plan. Together these districts total approximately 220 net buildable acres and are projected to accommodate 12,350 potential employees. Further, the application of the proposed Mixed Commercial Center and Community Commercial Center will implement the planned "Centers" designation of the Damascus/Boring Concept Plan. Together these districts total approximately 36 net buildable acres of commercial land. The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this condition. Therefore, this criterion has been satisfied by the proposed amendments.

G. *A conceptual transportation plan consistent with the applicable provision of the Regional Transportation Plan, Title 6 of the Urban Growth Management Functional Plan, and that is also consistent with the protection of natural resources, either identified and acknowledged comprehensive plan inventories or as required by Title 3 of the Urban Growth Management Functional Plan. The Plan shall, consistent with OAR Chapter*

660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.

Staff Response:

The transition of land within the EHVCP area from rural to urban land use designations will impact the existing transportation system and require the provision of new transportation facilities. In conformance with *660-012-0060(2)(b)*, a TSP Update has been prepared (Exhibit K). The purpose of the TSP Update is to address recent growth within the City and ensure that transportation system plans can adequately serve growth in East Happy Valley and adjacent growth areas of Pleasant Valley/Springwater (Gresham), and Damascus. The TSP Update also confirms consistency with the Regional Transportation Plan (RTP) and Statewide Planning Policies. Further, the TSP Update is aimed at fulfilling the City's transportation policies and the requirements of the Transportation Planning Rule (TPR) for comprehensive transportation planning.

The EHVCP Map represents an integrated land use and transportation plan. Beginning with the Pleasant Valley and Damascus/Boring Concept Plans, the land use designations were developed in an iterative manner with the planning for multi-modal transportation facilities. The process continued as the City developed the proposed amendments, with both the land use map and the transportation system plan updates being developed simultaneously and in an integrated manner. The transportation facilities have been designed according to the relative locations and designation of land uses within the EHVCP area. Existing and proposed arterials and collectors are shown in the EHVCP Map. Locations that require right-in/right-out access are also identified in the EHVCP Map.

The *2035 Traffic Analysis* memorandum dated November 28, 2008 (Exhibit L), estimates future households and residents based on the proposed land use designations and analyzes the transportation facilities required to serve those future populations. The analysis found that the proposed transportation system in the EHVCP Map would provide adequate service to the number of the residents and employees attributed to the maximum development of proposed land use designations. Further, the analysis concluded that the maximum development of the proposed land uses would have little impact on roadway traffic volumes outside of the EHVCP area. In addition to these general findings, several findings for specific roadways were made that support the proposed transportation system in the EHVCP Map. As part of the TSP Update process, all relevant portions of the TSP have been amended to include the proposed transportation system in the EHVCP Map. The Happy Valley TSP includes master plans for each transportation mode. All of the elements for a complete transportation system in East Happy Valley are addressed in these master plans that include: the Pedestrian Plan, the Bicycle Plan, the Transit Plan, and the

Motor Vehicle Plan. The master plans have been updated to include the EHVCP area on all maps. Additionally, all transportation projects associated with buildout of the EHVCP Map transportation system are listed, include cost estimates, and assigned a priority rank based on need. Further, each master plan contains an Action Plan that addresses the transportation projects with the highest, short-term need and provides potential funding sources, an estimated schedule, and cost for each project. These projects address performance standards and/or implement the City's transportation policies. Several Action Plan projects are located within the EHVCP area.

All portions of the City's TSP relevant to the proposed Comprehensive Plan amendments have been included in the proposed amendments to the TSP. The proposed TSP is consistent with applicable provisions of the RTP and Title 6 of the Urban Growth Management Functional Plan. The proposed TSP is required by the proposed Development Code (File No. LDO-01-09) to conform with Title 3 natural resource restrictions and protective regulations. In conjunction with the City's Joint Capital Improvement Plan (CIP) shared with Clackamas County, the TSP provides preliminary cost estimates and funding strategies and approaches for the greater TSP area. Therefore, this criterion has been satisfied by the proposed amendments. Therefore, this criterion is satisfied by the proposed amendments.

H. Identification and mapping of areas to be protected from development due to Fish and Wildlife Habitat Protection, Water Quality Enhancement and Mitigation, and Natural Hazards Mitigation, including without limitation, all Habit Conservation Areas, Water Quality Resource Areas, and Flood Management Areas. A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas, and natural hazard areas shall be completed as part of the Comprehensive Plan and zoning for lands added to the Urban Growth Boundary prior to urban development. The Plan shall include zoning strategies to avoid and minimize the conflicts between planned future development and the protection of habitat conservation areas, water quality resource areas, flood management areas, and other natural hazard areas. The Plan shall also include a preliminary cost estimate and funding strategy, including likely financing approaches, for options such as mitigation, site acquisition, restoration, enhancement, and easement dedication to ensure that all significant natural resources are protected.

Staff Response:

Proposed amendments to the Comprehensive Plan include policies that support the protection of wildlife, riparian areas, and steep slopes and direction for the city to adopt the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map.* The *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* includes the Title 13 Habitat Conservation Areas (HCAs) and mapped Water Quality Resources buffer areas currently regulated by WES for water quality.

The map also displays steep slopes by slope protection category as either conservation slope area or transition slope area. The Happy Valley Steep Slopes and Natural Resource Overlay Zones build on, and implement, the inventory, concepts and implementation strategies of the Damascus/Boring Concept Plan. Proposed Chapter 16.32 (File No.LDO-01-09) establishes the Steep Slopes Development Overlay (SSDO).

Proposed Chapter 16.32 seeks to minimize seismic and landslide hazards and soil erosion associated with development on steep or unstable slopes. Steep slopes will be protected based on the regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* used to indicate whether resources are present. The SSDO prohibits most development in areas with slopes greater than 25 percent and requires clustering of development in areas 15 to 24.99 percent slope. The overlay also gives the city authority to require geotechnical and other studies, provides site design standards to minimize impacts from development, and enables transfer of development rights.

Proposed Chapter 16.34 establishes the Natural Resource Overlay Zone (NROZ). Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13. The NROZ includes protection of both Goal 5 and Goal 6 resources; therefore, not all natural resources protected in the NROZ have been identified as "significant" through the Goal 5 process. Some of the resources protected are water quality resources, which were not identified as significant Goal 5 resources. Local and regional Goal 5 significant resources will be protected based on the inventory, as mapped on the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map*; water quality resources will be protected based on the regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* used to indicate whether resources are present. Based on the regulatory definitions provided in Draft Chapters 16.32 and 16.34 development is either prohibited or limited within the resource areas shown in the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map.*

The adoption of proposed Comprehensive Plan amendments, the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map,* which includes Metro Habitat Conservation Areas, and the proposed implementation language in Draft Chapters 16.34 and 16.32 provide a balance between the protection of natural resources and low impact development in resource areas. Therefore, this criterion is satisfied by the proposed amendments.

I. A conceptual public facilities and services plan for the provision of sanitary sewer, water, storm drainage, transportation, parks and police and fire protection. The plan

shall, consistent with OAR Chapter 660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.

Staff Response:

As the City of Happy Valley is not a "full-service" municipality, providing all water, sewer, streets, etc., public facilities and services plans exist in the form of Master Plans; rules and regulations; implementing ordinances; and, Intergovernmental Agreements (IGA's) between the City and its service providers. Thus, the planned development and identification of sanitary sewer and storm sewer services is illustrated by the documents provided by CCSD#1/WES (Exhibit O); with the clarification that storm sewer does not currently have a "master plan" per se, but is covered by the City's Development Code, Engineering Design Standards & Specifications Manual, and the WES rules and regulations; domestic water by the excerpt from the SWA Water Master Plan (Exhibit P); transportation services by the included TSP Update (Exhibit K); park services by the excerpt from the NCPD documents (Exhibit S), all of which are further established by either the corresponding Development Code language, implementing ordinances, and/or IGA's. In regard to emergency services, although the Clackamas Fire District No. 1 (CFD#1) and the Clackamas Sheriff's Office do not maintain "master plans", the City is within the CFD#1 district which is funded by tax revenue, and the City provides police services by contract specific to the City, which is currently funded via a four-year operating levy and fee collection. Therefore, this criterion has been satisfied by the proposed amendments.

J. *A conceptual school plan that provides for the amount of land and improvements needed, if any, for school facilities on new or existing sites that will serve the territory added to the UGB. The estimate of need shall be coordinated with affected local governments and special districts.*

Staff Response:

A "conceptual school plan" exists in the form of the two Facilities Plans and related documents provided by North Clackamas School District No. 12 (NCSD#12) and the Centennial School District (Exhibits Q and R). In addition, in regard to future funding sources, staff notes that both school districts have adopted the "schools excise tax" passed by the Oregon Legislature. Further, school district needs were coordinated as part of the Damascus/Boring Concept Plan, and the City's Comprehensive Plan Text includes policies specifically related to coordination with the school districts. Outside of the Rock Creek Employment District, known public school sites are designated/zoned Institutional Public Use (IPU), within which, schools are a listed permitted use (File No.LDO-01-09). Therefore, this criterion is satisfied by the proposed amendments.

K. An urban growth diagram for the designated planning area showing at least, the following, when applicable:

1. *General locations of arterial, collector and essential local streets and connections and necessary public facilities such as sanitary sewer, storm sewer and water to demonstrate that the area can be served;*
2. *Location of steep slopes and unbuildable lands including but not limited to wetlands, floodplains and riparian areas;*
3. *Location of Habitat Conservation Areas:*
4. *General locations for mixed use areas, commercial and industrial land;*
5. *General locations for single and multi-family housing;*
6. *General locations for public open space, plazas, and neighborhood centers; and*
7. *General locations or alternative locations for any needed school, park or fire hall sites.*

Staff Response:

The applicable mapping/diagramming is found within several key exhibits: the Damascus/Boring Concept Plan Excerpt (Exhibit C); the Metro Title 4 Design Types Map Excerpt (Exhibit D); the Metro 2040 Growth Concept Map Excerpt (Exhibit E); the Pleasant Valley Concept Plan Map Excerpt (Exhibit F); the Rock Creek Comprehensive Plan - Land Use Plan (Exhibit G); the Draft East Happy Valley Comprehensive Plan Map (Exhibit H); the Draft City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map (Exhibit I); the City of Happy Valley Draft Transportation System Plan (Exhibit K), the CCSD#1/WES Excerpts (Exhibit O); and, the Sunrise Water Authority Master Plan Excerpt (Exhibit P). Therefore, this criterion has been satisfied by the proposed amendments.

L. A determination of the zoned dwelling unit capacity of zoning districts that allow housing.

Staff Response:

The *East Happy Valley Buildable Lands and Residential Capacity Analysis* (Exhibit N) estimated the amount of buildable land for each zoned district within the EHVCP area. The analysis found approximately 514 net buildable acres of land in residential districts. Utilizing the methodology outlined in the memorandum, the zoned capacity for residential districts within the EHVCP area is 4,717 dwelling units. The EHVCP area is estimated to produce an average net density of 9.18 dwelling units per net buildable acre, which is consistent with the Damascus/Boring Concept Plan requirement for an average net density of 9.1 dwelling units per net buildable acre. Therefore, this criterion is satisfied by the proposed amendments.

M. The plan amendments shall be coordinated among the city, county, school district and other service districts.

Staff Response:

The proposed plan amendments have been coordinated with all applicable service providers. Therefore, this criterion has been satisfied by the proposed amendments.

Title 13: Nature in Neighborhoods
3.07.1310 Intent
The purposes of this program are to (1) conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape; and (2) to control and prevent water pollution for the protection of the public health and safety, and to maintain and improve water quality throughout the region.
[...]

3.07.1330 Implementation Alternatives for Cities and Counties
A. Under Oregon law, upon acknowledgment of this program by the Oregon Land Conservation and Development Commission (LCDC), cities and counties wholly or partly within the Metro boundary shall apply the requirements of this title with respect to areas identified as riparian habitat on the Inventory Map and areas identified as upland wildlife habitat on the Inventory Map, according to the compliance deadlines established in Metro Code Section 3.07.810, rather than applying the requirements of division 23 of chapter 660 of the Oregon Administrative Rules ("OAR"), promulgated by LCDC, [...]

B. Each city and county in the region shall either:
1. Amend its comprehensive plan and implementing ordinances to adopt the Title 13 Model Ordinance and the Metro Habitat Conservation Areas Map, and demonstrate compliance with the provisions of (a) Metro Code Section 3.07.1340(A)(5), related to enhanced fish and wildlife protection and management of publicly owned parks and open spaces that have been designated as natural areas and are not intended for future urban development, and (b) Metro Code Section 3.07.1340(A)(8), related to the restoration of Habitat Conservation Areas when developed property is undergoing significant redevelopment;
2. Demonstrate that its existing or amended comprehensive plan and existing, amended, or new implementing ordinances substantially comply with the performance standards and best

management practices described in Metro Code Section 3.07.1340, and that maps that it has adopted and uses substantially comply with the Metro Habitat Conservation Areas Map;
3. Demonstrate that it has implemented a program based on alternative approaches that will achieve protection and enhancement of Class I and II riparian habitat areas, and of Class A and B upland wildlife habitat areas in territory added to the Metro UGB after December 28, 2005, substantially comparable with the protection and restoration that would result from the application of a program that complied with Metro Code Sections 3.07.1330(B)(1) or (B)(2)."

Staff Response:

Proposed amendments to the Comprehensive Plan include policies that support the protection of wildlife and riparian areas and direction for the city to adopt the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* (Exhibit I). The *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* includes the Title 13 Habitat Conservation Areas (HCAs) and mapped Water Quality Resources buffer areas currently regulated by WES for water quality.

Proposed Chapter 16.34 (File No.LDO-01-09), establishes the Natural Resource Overlay Zone (NROZ). Draft Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13. Because the NROZ includes both Goal 5 and Goal 6 resources, not all natural resources protected in the NROZ have been identified as "significant" through the Goal 5 process, some are protected as Water Quality Resources. Local and regional Goal 5 significant resources will be protected based on the City's current and soon to be updated (currently under review by the Oregon Division of State Lands) Local Wetland Inventory (LWI), which is mirrored in the mapping on the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map*; Water Quality Resources will be protected based on the regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* used to indicate whether resources are present.

Consistent with the recommendations of the 2008 *Nature-friendly Development Practices: City of Happy Valley Policies, Code, and Procedures Audit*, proposed code language is based on WES standards, such as the methodology for determining Protected Water Features and the Vegetated Corridors, and Metro's model code for Title 13 compliance. Model code standards reflected in Draft Chapter 16.34 include: application requirements for development within Water Quality Resource Areas; habitat-friendly development practices and incentives that may be used to avoid or minimize development within the overlay zone; and the Non-discretionary, Special Use, and Discretionary development review procedures.

The adoption of proposed Comprehensive Plan policy language, the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map,* which includes Metro Habitat Conservation Areas, and the proposed implementation language in Draft Chapter 16.34 will bring the City of Happy Valley into substantial compliance with Metro Code Section 3.07.1340, Performance Standards and Best Management Practices for Habitat Conservation Areas. Therefore, these criteria are satisfied by the proposed amendments.

4. The following sections of Exhibit "M" to Metro Ordinance No. 02-969B (Conditions on Addition of Land to UGB) are applicable to this request:

NOTE: The East Happy Valley Comprehensive Plan area is comprised of Study Area 15 and portions of Study Areas 14, 17, and 18. Therefore, the East Happy Comprehensive Plan is subject to the requirements of Metro Ordinance No. 02-969B Section I. General Conditions Applicable to All Land Added to UGB and Section II. Specific Conditions for Particular Areas: A. Study Areas 6 (partial), 10 (partial), 11, 12, 13, 14, 15, 16, 17, 18 and 19 (partial). However, subsections particular to other jurisdictions have been removed from the quoted, applicable portions of Exhibit "M".

Chapter IX, Achievement of Goals and Principles in the *Report on the Damascus/Boring Concept Plan* details the compliance of the Damascus/Boring Concept Plan in meeting concept plan requirements. Several of the following requirements were met or partially met by the concept planning process.

"***I. General Conditions Applicable to All Land Added to UGB***

A. The city or county with land use planning responsibility for a study area included in the UGB shall complete the planning required by Metro Code Title 11, Urban Growth Management Functional Plan ("UGMFP"), section 3.07.1120 ("Title 11 planning") for the area. Unless otherwise stated in specific conditions below, the city or county shall complete Title 11 planning within two years. Specific conditions below identify the city or county responsible for each study area.

Staff Response:

The City of Happy Valley participated in both the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan planning efforts, which have directly led to the integrated land use and transportation plan known as the EHVCP. The City of Happy Valley led the comprehensive planning effort that has resulted in the proposed amendments to the Happy

Valley Comprehensive Plan Map/Zoning Map, Comprehensive Plan policies, and Transportation System Plan. Therefore, this condition is satisfied by the proposed amendments.

B. The city or county with land use planning responsibility for a study area included in the UGB, as specified below, shall apply the 2040 Growth Concept design types shown on Exhibit N of this ordinance to the planning required by Title 11 for the study area.

Staff Response:

The Damascus/Boring concept planning process applied all applicable 2040 design types shown on the UGB ordinance map. Through the comprehensive planning effort, the locations and extents of the concept plan design types have been refined to reflect site specific conditions, review of analyses and alternatives, and localized policy direction. Further, the densities and lot size requirements for the residential and commercial land use districts have been adapted to correspond with the proposed amendments to the City's Comprehensive Plan policies, which provide the policies for the implementation of Damascus/Boring Concept Plan recommendations. Therefore, this condition is satisfied by the proposed amendments.

C. The city or county with land use planning responsibility for a study area included in the UGB shall apply interim protection standards in Metro Code Title 11, UGMFP, section 3.07.1110, to the study area.

Staff Response:

In the time after the expansion of the UGB, but preceding the proposed EHVCP, the City has implemented interim protection within the EHVCP area by not allowing any comprehensive plan map/zoning map amendments in the subject area; not allowing any land division in the subject area; not allowing any commercial use within a RSIA area; and, not allowing any institutional or community services use s that are intended to serve people who do not work or reside in the area within a RSIA area. Therefore, this condition is satisfied by the proposed amendments.

D. In Title 11 planning, each city or county with land use planning responsibility for a study area included in the UGB shall recommend appropriate long-range boundaries for consideration by the Council in future expansion of the UGB or designation of urban reserves pursuant to 660 Oregon Administrative Rules Division 21.

Staff Response:

As a part of the Damascus/Boring concept planning process, two potential future urban areas were identified. Lands adjacent to the East Happy Valley Comprehensive Plan area were also brought into the Urban Growth Boundary. Therefore, this condition was satisfied by the Damascus/Boring Concept Plan.

E. Each city or county with land use planning responsibility for a study area included in the UGB shall adopt provisions in its comprehensive plan and zoning regulations – such as setbacks, buffers and designated lanes for movement of slow-moving farm machinery - to ensure compatibility between urban uses in an included study area and agricultural practices on adjacent land outside the UGB zoned for farm or forest use.

Staff Response:

Lands adjacent to the East Happy Valley Comprehensive Plan area were also brought into the Urban Growth Boundary. Therefore, this condition is inapplicable to the proposed amendments.

F. Each city or county with land use planning responsibility for a study area included in the UGB shall apply Title 4 of the UGMFP to those portions of the study area designated Regionally Significant Industrial Area ("RSIA"), Industrial Area or Employment Area on the 2040 Growth Concept Map (Exhibit N). If the Council places a specific condition on a RSIA below, the city or county shall apply the more restrictive condition.
Staff Response:

The Damascus/Boring concept planning process identified industrial and mixed employment lands, designating some of the industrial land as RSIA opportunity sites. The EHVCP designates all approximately 111 net buildable acres of industrial land Industrial Campus, which is compliant with Metro Title 4 requirements for RSIAs. The EHVCP also designates approximately 109 net buildable acres Employment Center, which is compliant with Metro Title 4 requirements for employment areas. The planning efforts and analysis that went into the Damascus/Boring Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this condition. For further discussion, see the responses to Metro Title 4 requirements, above. Therefore, this condition is satisfied by the proposed amendments.

G. In the application of statewide planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) to Title 11 planning, each city and county with land use planning responsibility for a study area included in the UGB shall comply with those provisions of Title 3 of the UGMFP acknowledged by the Land Conservation and Development Commission ("LCDC") to comply with Goal 5. If LCDC has not acknowledged those provisions of Title 3 intended to comply with Goal 5 by the deadline for completion of Title 11 planning, the city or county shall consider any inventory of regionally significant Goal 5 resources adopted by resolution of the Metro Council in the city or county's application of Goal 5 to its Title 11 planning.

Staff Response:

Proposed Chapter 16.34 (File No.LDO-01-09) establishes the Natural Resource Overlay Zone (NROZ). Chapter 16.34 consolidates the regulatory requirements for Water Quality Resources from Statewide Planning Goal 6, Metro UGMFP Title 3, and Clackamas County Water Environment Services with the Wildlife Habitat and Riparian Resources requirements from Statewide Planning Goal 5 and Metro UGMFP Title 13. The NROZ includes protection of both Goal 5 and Goal 6 resources; therefore, not all natural resources protected in the NROZ have been identified as significant through the Goal 5 process. Some of the resources protected are water quality resources, which were not identified as significant Goal 5 resources. Local and regional Goal 5 significant resources will be protected based on the City's Local Wetland Inventory (LWI), which is mirrored on the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* (Exhibit I); water quality resources will be protected based on the regulatory definitions, with the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map* used to indicate whether resources are present. The creation of these local regulations has occurred in coordination with broader scale resource inventory and planning that took place in the Pleasant Valley Concept Plan and Damascus/Boring Concept Plan. Therefore, this condition is satisfied by the proposed amendments.

H. Each city and county with land use planning responsibility for a study area included in the UGB shall provide, in the conceptual transportation plan required by Title 11, subsection 3.07.1120F, for bicycle and pedestrian access to and within school sites from surrounding area designated to allow residential use.

Staff Response:

School needs were coordinated as part of the Damascus/Boring Concept Plan. The City's proposed amendments implement this work by designating known school sites as Institutional

Public Use (IPU) and providing applicable Comprehensive Plan policies and coordination efforts. For further discussion, see the response to Title 11, subsection J, above.

In regard to bicycle and pedestrian accessibility to school sites, as part of the TSP Update process (see Exhibit J), all relevant portions of the TSP have been amended to include the proposed transportation system in the EHVCP Map. The Happy Valley TSP includes master plans for each transportation mode. All of the elements for a complete transportation system in East Happy Valley are addressed in these master plans that include: the Pedestrian Plan, the Bicycle Plan, the Transit Plan, and the Motor Vehicle Plan. The master plans have been updated to include the EHVCP area on all maps. Additionally, all transportation projects associated with buildout of the EHVCP Map transportation system are listed, include cost estimates, and assigned a priority rank based on need. Further, each master plan contains an Action Plan that addresses the transportation projects with the highest, short-term need and provides potential funding sources, an estimated schedule, and cost for each project. These projects address performance standards and/or implement the City's transportation policies. Several Action Plan projects are located within the EHVCP area.

The Pedestrian Plan proposes pedestrian improvements (sidewalks and signalized pedestrian crossings) on all arterial and collector streets in the EHVCP area, where pedestrian improvements do not exist. The Pedestrian Action Plan includes planned sidewalks on 162nd Avenue from Highway 212 to Clatsop Street and sidewalks and signalized pedestrian crossings on 172nd Avenue from Sunnyside Road to Clatsop Street. Existing sidewalks are located on Sunnyside Road, Rock Creek Boulevard west of 172nd, and on 172nd from Highway 212 to Sunnyside Road. As provided in the Bicycle Plan, local streets do not require bicycle facilities due low motor vehicle traffic volumes and speeds, bikes and motor vehicles share the roadway. The Bicycle Plan proposes bicycle facilities on arterials and collectors in the EHVCP area, where bike facilities do not already exist. The Bicycle Action Plan includes planned bike lanes on 162nd from Highway 212 to Clatsop Street and on 172nd from Sunnyside Road to Clatsop Street. Existing bike lanes are located on Sunnyside Road and on 172nd from Highway 212 to Sunnyside Road. The Pedestrian and Bicycle Plans include two regional multi-use trails (pedestrian and bicycle use) within the EHVCP. Therefore, this condition is satisfied by the proposed TSP Update. Pedestrian and bicycle facilities are provided by developers as part of half-street improvements, so pedestrian and bicycle facilities are provided incrementally. To provide additional funding to pedestrian projects, the Pedestrian Plan recommends a walkway fund. The Pedestrian Plan stresses the importance of safe, accessible routes to school and the provision of adequate sidewalks within one mile of school locations. The Pedestrian and Bicycle Plans in the TSP Update contain all necessary planning for pedestrian improvements and bicycle facilities in the EHVCP area and within the greater city limits. The actual provision of these facilities is dependent upon development review. All portions of the City's TSP relevant to the proposed

Comprehensive Plan amendments have been included in the proposed amendments to the TSP. Therefore, this condition is satisfied by the proposed amendments.

II. Specific Conditions for Particular Areas

A. Study Areas 6 (partial), 10 (partial), 11, 12, 13, 14, 15, 16, 17, 18 and 19 (partial)

1. Clackamas and Multnomah Counties and Metro shall complete Title 11 planning for the portions of these study areas in the Gresham and Damascus areas as shown on Exhibit N within four years following the effective date of this ordinance. The counties shall invite the participation of the cities of Gresham and Happy Valley and all special districts currently providing or likely to provide an urban service to territory in the area. If a portion of the area incorporates or annexes to the City of Happy Valley or the City of Gresham prior to adoption by Clackamas and Multnomah Counties of the comprehensive plan provisions and land use regulations required by Title 11, the Metro Council shall coordinate Title 11 planning activities among the counties and the new city pursuant to ORS 195.025.

Staff Response:

The City of Happy Valley participated in the Damascus/Boring Concept Plan (DBCP), which was completed in February 2006, a full year in advance of the March 2007 deadline. Many parcels of land within the EHVCP area have annexed to the City of Happy Valley, however, no zone change or land division within the subject area have been allowed, nor will they prior to adoption of the EHVCP. Therefore, this condition has been satisfied by the DBCP plan process combined with the currently proposed EHVCP.

2. In the planning required by Title 11, subsections A and F of section 3.07.1120, Clackamas and Multnomah Counties shall provide for annexation to the TriMet district of those portions of the study areas whose planned capacity for jobs or housing is sufficient to support transit.
[...]

Staff Response:

The vast majority of the EHVCP area is currently outside of the TriMet district boundary. The City of Happy will work with TriMet and Clackamas County to extend the TriMet district to include the EHVCP area. Annexation to the TriMet district is included in the Transit Action Plan of the propose TSP Update plans for future north/south bus routes on 172nd Avenue for the entire length of the roadway within the EHVCP area. Future east/west bus routes on Hwy. 212 and Sunnyside Road extend from the western extent of the EHVCP area to 172nd Avenue. These bus routes are likely to be extended further west as Damascus develops. 172nd Avenue and Sunnyside Road are designated as regional bus transit routes in the Metro RTP. Minimum transit

supportive densities are identified within the City's TSP as four housing units per acre or three employees per acre within one quarter mile of the proposed facility. The 172nd Avenue corridor is anchored by large amounts of industrial and employment land that when developed, will require transit coverage. Further, as the majority of the residential density in the EHVCP area is planned for the 172nd Avenue corridor, the development of the proposed residential land use designations along 172nd Avenue will meet requirements for transit coverage. The planned residential and employment densities near 172nd Avenue, Sunnyside Road, and Highway 212 are transit supportive, which is consistent with the Metro RTP. Therefore, this condition is satisfied by the proposed amendments.

4. In the planning required by Title 11, Clackamas and Multnomah Counties shall provide for separation between the Damascus Town Center and other town centers and neighborhoods centers designated in Title 11 planning or other measures in order to preserve the emerging and intended identities of the centers using, to the extent practicable, the natural features of the landscape features in the study areas.

Staff Response:

The Damascus/Boring Concept Plan identified the town center and two neighborhood centers in Damascus and two neighborhood centers in the EHVCP area. The Damascus/Boring Concept Plan located the Damascus Town Center and the Sunshine Valley Neighborhood Center on 232nd Avenue. The other neighborhood center in Damascus is located at the intersection of Foster Road and Highway 212. Although the City of Damascus has not specifically used the DBCP in the formulation of a draft Comprehensive Plan for the City, these centers are a considerable distance from the two neighborhood centers envisioned in the EHVCP area, along 172nd Avenue. The Comprehensive Plan policies for the MCC and CCC districts were written to implement the Neighborhood Centers and Corner Store design types from the DBCP. Further, the location of the MCC and CCC designations on the EHVCP Map are consistent with the locational criteria established during the DBCP planning effort. The centers are spaced along the 172nd corridor with consideration for the distance between centers along the corridor and natural features within the EHVCP area. Therefore, this criterion is satisfied by the proposed amendments.

5. If, prior to completion by Clackamas County of Title 11 planning for the Damascus Area, the county and Metro have determined through amendment to the 2000 Regional Transportation Plan to build the proposed Sunrise Corridor, the county shall provide for the preservation of the proposed rights-of-way for the highway as part of the conceptual transportation plan required by subsection G of section 3.07.1120 of Title 11."

Staff Response:

The planning efforts for the proposed Sunrise Corridor are ongoing. Therefore, this condition is inapplicable to the proposed development.

5. The following Goals and Policies from the City of Happy Valley Comprehensive Plan are applicable to this request:

NOTE: Although this proposal includes numerous changes to text and re-organization of the City's Comprehensive Plan Policies, staff notes that this section quotes only applicable, existing Goals and Policies from the City's Comprehensive Plan text. The City's original Comprehensive Plan incorporated the DLCD Statewide Planning Goals in its adoption, thus these goals are quoted here as part of the Comprehensive Plan text, separate, but related, to the Statewide Planning Goals addressed in Section 1 of these findings.

"Goal #14 – To provide for an orderly and efficient transition from rural to urban land use.

[...]

Policy 4: *To insure orderly development in the City of Happy Valley through formulation of growth management policies and guidelines which will determine that development can occur only when adequate levels of services and facilities are or will be available.*

Policy 5: *To encourage controlled development while maintaining and enhancing the physical resources which make Happy Valley a desirable place to live.*

Staff Response:

The City of Happy Valley ensures that "orderly and controlled development" occurs through the continuous and ongoing development of growth management policies and guidelines, primarily through the auspices of the City's Comprehensive Plan Policies and Development Code regulations. In regard to this application, new and amended Comprehensive Plan policies and

implementing zoning districts are proposed, which will further facilitate "orderly and controlled development" while providing opportunities to maintain and enhance the physical resources of the City. Said regulations, combined with the requirements of the City's urban service providers (Clackamas County DTD, CCFD#1, CCSD#1, Sunrise Water, etc.) ensure that development must provide adequate levels of service and facilities prior to development. Therefore, these criteria are satisfied by the proposed amendments.

[...]
Goal 7 – To protect life and property from natural disasters and hazards.
[...]
Policy 10: *Prohibit development in identified natural drainage-ways, floodplains and wetlands. Development in these areas will be limited to open space, recreation or other appropriate uses which minimize the potential loss of life or other property. Ordinances will be written to comply with federal and state regulations.*

Staff Response:

The proposed Comprehensive Plan policies and Development Code implementing text (File No.LDO-01-09) provide for even greater protective measures for identified natural drainageways, floodplains and wetlands, and have been coordinated with local, state and federal agencies and regulations, including Clackamas County WES; Metro; the Oregon Division of State Lands; the Oregon Department of Land Conservation and Development; and, the Federal Emergency Management Agency. Therefore, this criterion is satisfied by the proposed amendments.

[...]
Policy 13: *Development which increases runoff and erosion, or which has the potential for undermining downhill development through significant increases in runoff will be restricted.*

[...]
Policy 15: *Engineering studies by private developers, the City and other government agencies for sites proposed for development within areas of suspected or known hazards and compliance with appropriate chapters of the adopted Uniform Building Code and applicable sections of the Happy Valley Land Development Ordinance, are required.*

Staff Response:

The proposed development and application of the urban comprehensive plan designations/zoning within the EHVCP Map and implementing Development Code text (File No.LDO-01-09) will facilitate eventual development applications within the approximately 2,100-acre subject area that will be required by Development Code regulations to comply with current restrictions on development affecting runoff and erosion, including applicable service provider requirements, including those of CCSD#1 and Oregon DEQ, including for any mapped or documented hazard areas. Therefore, these criteria are satisfied by the proposed amendments.

Goal 5: *To conserve and protect natural and scenic resources.*

[...]

Policy 21: *Maintain relationship of open space to permitted development in order to preserve the character of the natural setting and to provide for recreation and visual relief from development.*

[...]

Policy 28: *Conserve the area's unique natural resources through their inclusion in the overall Land Use Plan in a manner which considers surrounding uses and provides a continuity of open space character and natural features, throughout the City.*

[...]

Policy 35: *Maintain riparian vegetation and avoid degradation of natural features adjacent to drainage channels and conservation easements to minimize runoff and erosion affecting water quality.*

Staff Response:

The proposed development and application of the urban comprehensive plan designations/zoning districts will facilitate eventual development applications within the approximately 2,100-acre subject area that will be required by Development Code regulations to comply with restrictions on development affecting natural resources, runoff and erosion, per applicable service provider requirements, including those of CCSD#1 and Oregon DEQ. In addition, the provisions of the proposed Development Code Text Amendments (File No.LDO-01-09), include minimum landscape/open space requirements providing for the maintenance of natural areas in regard to development, as well as providing recreation and visual relief from the future development. Therefore, these criteria are satisfied by the proposed amendments.

[...]

Goal #2 – To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

[...]

Policy 48: *The Land Development Ordinance will be revised to comply with the Comprehensive Plan to allow for changes over time as the City goals and policies change.*

Staff Response:

The subject request demonstrates the implementation of this Policy. New Comprehensive Plan Policies are proposed to reflect the EHVCP, and are in turn implemented by the proposed Development Code Text Amendments (File No.LDO-01-09). Therefore, this criterion is satisfied by the proposed amendments.

[...]

Policy 50: *To locate land uses so as to take advantage of existing systems and physical features, to minimize development cost and to achieve compatibility and to avoid conflicts between adjoining uses.*

Staff Response:

The proposed EHVCP designations/zoning districts, if applied to the approximately 2,100-acre subject area, will take advantage of existing systems such as the transportation system provided by existing arterials, specifically Sunnyside Road and Hwy. 212, combined with existing and planned improvements to arterials such as 172nd Avenue and Rock Creek Blvd., as well as the collector street system as illustrated in the TSP Update. In addition, the separation and buffering provided by natural resources such as Rock Creek and its tributaries, significant rights-of-way and comprehensive plan designation/zoning district land use patterns provide compatibility and avoid conflicts between adjoining uses and planned employment, parks and school uses. Therefore, this criterion is satisfied by the proposed amendments.

[...]

Goal #9 – To diversify and improve the economy of the state.

[...]

Policy 55: *To improve the economy of Happy Valley by providing a range of land use types including variety of commercial and employment districts [...]*

Policy 60: *To encourage compatible residential, commercial and light industrial development in Happy Valley that will provide jobs. The City supports the development of commercial and employment uses in Rock Creek (including the Rock Creek Employment Area) and in other areas, subject to design standards.*

Staff Response:

The proposed urban comprehensive plan designations/zoning districts, particularly the CCC, MCC, IC and EC zones, will aid in the future development of the economy of Happy Valley by providing for a land use types that allow commercial and employment development, thereby providing jobs, tax revenue, etc. Therefore, these criteria are satisfied by the proposed amendments.

[...]

Goal #11 *To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for the planned growth and ultimately for full urban development of the City.*

[...]

Policy 74: *To require new developments to provide Level 1 public facilities and services which are consistent with the Leveled Growth Management section of this Plan and are required by City Ordinances.*

Staff Response:

As the City of Happy Valley is not a "full-service" municipality, providing all water, sewer, streets, etc., public facilities and services plans exist in the form of Master Plans; rules and regulations; implementing ordinances; and, Intergovernmental Agreements (IGA's) between the City and its service providers. Thus, the provision of sanitary sewer/storm sewer issues are illustrated by the documents provided by CCSD#1/Clackamas County WES (Exhibit O, though storm sewer does not currently have a "master plan" per se, but is covered by the City's Development Code, Engineering Design Standards & Specifications Manual, and the WES rules and regulations; domestic water by the excerpt from the SWA Water Master Plan (Exhibit P); transportation services by the included TSP Update (Exhibit K); park services by the excerpt from the NCPD Master Plan (Exhibit S), all of which are further established by either corresponding Development Code language, implementing ordinances, and/or IGA's. In regard to emergency services, although the Clackamas Fire District No. 1 (CFD#1) and the Clackamas Sheriff's Office do not maintain "master plans", the City is within the CFD#1 district which is funded by tax revenue, and the City provides police services by contract specific to the City,

which is currently funded via a four-year operating levy and fee collection. Therefore, these criteria have been satisfied by the proposed amendments.

[...]

Policy 85: *To require new developments to limit storm drainage runoff outside project boundaries or provide a storm drainage and collection system within the project in compliance with the City's Storm Drainage Ordinance.*

Policy 86: *Until the City's Facilities Plan is completed and the economic analysis and assessment policies are formulated by Clackamas County Service District #1, the City shall evaluate on a case by case basis those P.U.D's ., subdivisions, land partitions or building permit applications which can be provided with sewer service from existing sewer lines adjacent to the City. Their approval during this interim period shall be based on the provisions of the City's Land Development Ordinance, Growth Management Policies, and agreements for the payment of anticipated public facilities assessments.*

Staff Response:

Although the subject request does not propose "new development" it will provide the opportunity for submittal of future land use development applications. Said applications will require storm drainage runoff and sewer service to be compliant City regulations, including CCSD#1 requirements. Therefore, these criteria are satisfied by the proposed amendments.

[...]

Policy 99: *Any and all development within the city shall be subject to participation in the provision of Level 2 facilities and services which are essential to the development of the City as a whole, and shall include:*

- *schools*
- *police protection*
- *parks and recreation*
- *public transit*
- *vector control*
- *city administrative services*

However, per the requirements of ORS 195.110(11) - notwithstanding any other provision of state or local law, school capacity shall not be the sole basis for the approval or denial of any residential development application, unless the

application involves changes to the local government comprehensive plan or land use regulations.

Staff Response:

Although the subject request does not propose "new development" it will provide the opportunity for submittal of future land use development applications. Said applications will require the provision of Level 2 facilities. Therefore, this criterion is satisfied by the proposed amendments.

Policy 100: *The funding of improvements, extension of construction Level 1 facilities and services within the incorporated limits of the city shall be the responsibility of those whose land use activities caused such improvement, extension or construction to become necessary. Funding sources may include but are not limited to creation of a local improvement district (LID); outside funding or grants in aid; direct source payment with or without agreement for future reimbursement by other property owners who may utilize the facility or service; other sources as may be identified.*

Staff Response:

As observed, Level 1 facilities and services either exist adjacent to the subject area or will be provided by future development applications. Said future improvements are required to be designed by a licensed engineer, constructed by a licensed contractor, and paid for by a developer. The improvements are required to be in substantial conformance with the information provided within the Concept Master Plan and/or per future land division and/or Design Review applications. Therefore, this criterion is satisfied by the proposed amendments.

[...]

Policy 102: *When, as the coordinator of land use activities and service provision to development areas, the City must make determinations regarding fulfillment of the Growth Management Policies and Procedures, the City shall consider recommendations provided by service providers and other affected agencies, including but not limited to the following:*

- *Clackamas County Service District No. 1 (CCSD#1)*
- *Sunrise Water Authority*
- *Clackamas County Fire District No. 1 (CCFD#1)*
- *Clackamas County, Department of Transportation and Development*

- *North Clackamas School District No. 12*
- *North Clackamas Parks & Recreation District*
- *Tri-Met*
- *City of Portland*
- *City of Gresham*
- *City of Damascus*

Any determination shall be within the parameters of the providers' or agency's own standards, criteria, requirements or plans. The service providers' decision shall be treated as a rebuttable presumption as to the ability of that provider to provide an acceptable level of service. However, the evidence that can rebut said decision must be compelling evidence based upon objective data and the agencies' standards-criteria-requirement or plans in order to controvert the determination of the service provided.

Staff Response:

All service providers have been contacted and coordinated with by the City of Happy Valley, including the addition of the Oregon Department of Land Conservation and Development (DLCD) and METRO, and the recommendations of these service providers are incorporated within the record (see Exhibit T). Therefore, this criterion is satisfied by the proposed amendments.

Policy 103: *No development of any properties shall be permitted which will interfere or prevent the extension of any Level 1 facilities or services."*

Staff Response:

As observed, although the subject application does not propose "new development" it will provide the opportunity for submittal of future land use development applications. Said applications are not anticipated to prevent the extension of any Level 1 facilities. Therefore, this criterion is satisfied by the proposed amendments.

6. The following sections of Title 16 of the Happy Valley Municipal Code (DEVELOPMENT CODE) are applicable to this request:

"Chapter 16.40 *AMENDMENTS TO THE COMPREHENSIVE PLAN, LAND USE MAP AND LAND DEVELOPMENT TITLE OF THIS CODE*

[...]
16.40.020 Initiation of a plan amendment.

Any change in the text, map, or implementing ordinance of the adopted Happy Valley Comprehensive Plan may be initiated by the City, any resident of the City, property owners or authorized agent. [...]

Staff Response:

The Comprehensive Plan Policy Amendments; Comprehensive Plan Map/Zone Map Amendments; and, the TSP Update are initiated by the City of Happy Valley. Therefore, this criterion has been satisfied by the proposed amendments.

[...]
16.40.040 Public hearing and notice.

A. Any proposed change to the adopted Happy Valley land use regulations shall follow the stated scheduling, notification and procedure.

1. Process. The first evidentiary hearing shall occur before the planning commission, who may make a recommendation to the city council to approve, approve with conditions, or deny subject requests. The city council shall be the final local review authority, and shall decide to approve, approve with conditions, or deny subject requests.

2. Notice.

a. All affected governmental agencies shall be notified by mail. Failure to receive such notices shall not invalidate the application, public hearing or other proceedings.

b. Continued hearings may be held on any application without giving further notice as outlined above, provided that the date and time of additional or continued hearings are given during the first public hearing or subsequent hearing on the subject preceding the additional or continued hearing.

c. Notice of all non-site-specific proposed plan text, map or implementing ordinance amendments shall be provided pursuant to the city charter and applicable state statutes.

B. Any proposed annexation to the city via an expedited process shall follow the stated scheduling, notification and procedure.

1. Process. Expedited annexations shall be processed as an ordinance per chapter eight of the city's Charter, effective January 1, 2001. The final decision shall occur before the city council. The city council shall be the only local review authority, and shall decide to approve, approve with conditions, or deny subject requests.

2. Notice.

a. All interested and necessary parties, as defined by the Metro Code Section 3.09.020, shall be notified by mail. Failure to receive such notices shall not invalidate the application, final decision or other proceedings.

b. Continued hearings may be held on any application without giving further notice as outlined above, provided that the date and time of additional or continued hearings are given during the first public hearing or subsequent hearing on the subject preceding the additional or continued hearing.

Staff Response:

The processes and notice described within this section have been followed by the City, including the provision of Measure 56-compliant notice. Therefore, these criteria are satisfied by the proposed amendments.

Section 16.40.041 Review criteria.

A. The proposed amendment is consistent with and promotes applicable Goals and Policies of the Comprehensive Plan of the city;

Staff Response:

See the staff response to the applicable Goals and Policies of the Comprehensive Plan, above. As addressed within the record, this criterion is satisfied by the proposed amendments.

B. There is a demonstrated public need for a change of the specific type proposed;

Staff Response:

Without the proposed EHVCP and related materials addressed within this report, the City would be out of compliance with Metro and State requirements. Therefore, this criterion is satisfied by the proposed amendments.

C. That need will be best served by the amendment as proposed as compared with other alternatives;

Staff Response:

Staff interprets the language "other alternatives" in this criterion to mean that the alternative would be to analyze not implementing designation/zones that might install the "zoning mix"

explored in the Damascus-Boring Concept Plan. The potential for future development within the subject area requires replacing the existing County zoning (EFU, RRFF-5 and FF-10) with a broad range of urban zones. The proposed zoning districts will result in a range of residential, commercial, employment, industrial and institutional uses that will facilitate employment opportunity in this geographic region, conducive with the Damascus-Boring Concept Plan and per the Title 4 requirements of the Functional Plan. Not permitting the Comprehensive Plan Amendment/Zone Change to occur would limit the development potential of the subject area and be out of compliance with State requirements, and further, would not meet employment and urbanization goals and policies adopted in the greater Happy Valley Comprehensive Plan, and would not be consistent with Metro's Regional Framework Plan and Urban Growth Management Plan for this geographic region. Therefore, this criterion is satisfied by the proposed amendments.

D. The proposed amendment is consistent with the use and implementation of growth management mechanisms and capital improvement programs of the city;

Staff Response:

The City of Happy Valley Comprehensive Plan establishes goals and policies to guide the quantity, type, costs, timing, and quality of development within the city. The applicable growth management mechanism policies related to the proposed project include those addressed above.

Policy 97 states that the "City shall permit development on vacant buildable lands when all Level 1 facilities and services are available [including] sanitary sewer, water supply, storm drainage, fire protection, and streets and roads." Policy 99 is similar to Policy 97, although it refers to having adequate provisions for providing Level 2 services that include schools, police protection, parks and recreation, public transit, vector control, and city administrative services. Policy 102 requires city coordination with local service providers to ensure adequate services are available. Policy 102 states that the "city shall rely on a determination provided by the service providers and other affected agencies…Any determination shall be within the parameters of the providers' or agency's own standards, criteria, requirements or plans." The availability of services and impact to Level 2 service providers has been discussed within this report, and will be further addressed within future land development applications.

Generally, the greater subject area would remain within service areas currently serving the area. This includes the Sunrise Water Authority, CCFD #1, Metro, Tri-met, etc. However, annexation into both the city limits and Clackamas County Service District #1 (CCSD #1) will be required for all properties seeking urban development. The subject area is within an area that is included in an urban service provider agreement between CCSD #1 and the City of Happy Valley that

stipulates that CCSD #1 will provide service to the territory once it is annexed into the City. Any future land use applications will be required to submit an application for annexation to CCSD #1. Preliminary discussions with CCSD #1 indicate that there is capacity to provide sanitary sewer and storm water services to the project site. Similarly, the site is presently not within a street lighting district. Therefore, any future land use applications will be required to annex into Clackamas County Service District #5, which will provide street lighting for the area.

Parcels outside of the city are currently without the North Clackamas Park District #2; when annexed, the parcels would become part of the Parks District, and are required to "de-annex" from the County Enhanced Law Enforcement District. Upon development/building permit issuance, parcels within the subject area would participate in park funding through payment of the City's Park System Development Charge (SDC).

The most likely impacts on Level 1 service providers would be providing adequate water supply, storm water, and wastewater collection and treatment. Discussions with local service providers and review of existing available utilities indicate that they would have adequate capacity to service potential commercial and employment development if the parcels are rezoned and remaining un-annexed properties annexed into the City. Finally, streets within the greater subject area are governed by the City's Transportation System Plan and Joint CIP with Clackamas County, including design standards, SDC payments, and any eligible SDC credits. If the subject requests are approved, future commercial development would meet local development standards set forth by the City and local service providers. Therefore, this criterion is satisfied by the proposed amendments.

E. The proposed amendment can be implemented by this land development title and all other appropriate codes, ordinances and regulations. The applicant bears the entire burden of proof of establishing to the planning commission that the proposed amendment meets the above requirements. This burden of proof shall also apply to the city if it initiates a proposed amendment.

Staff Response:

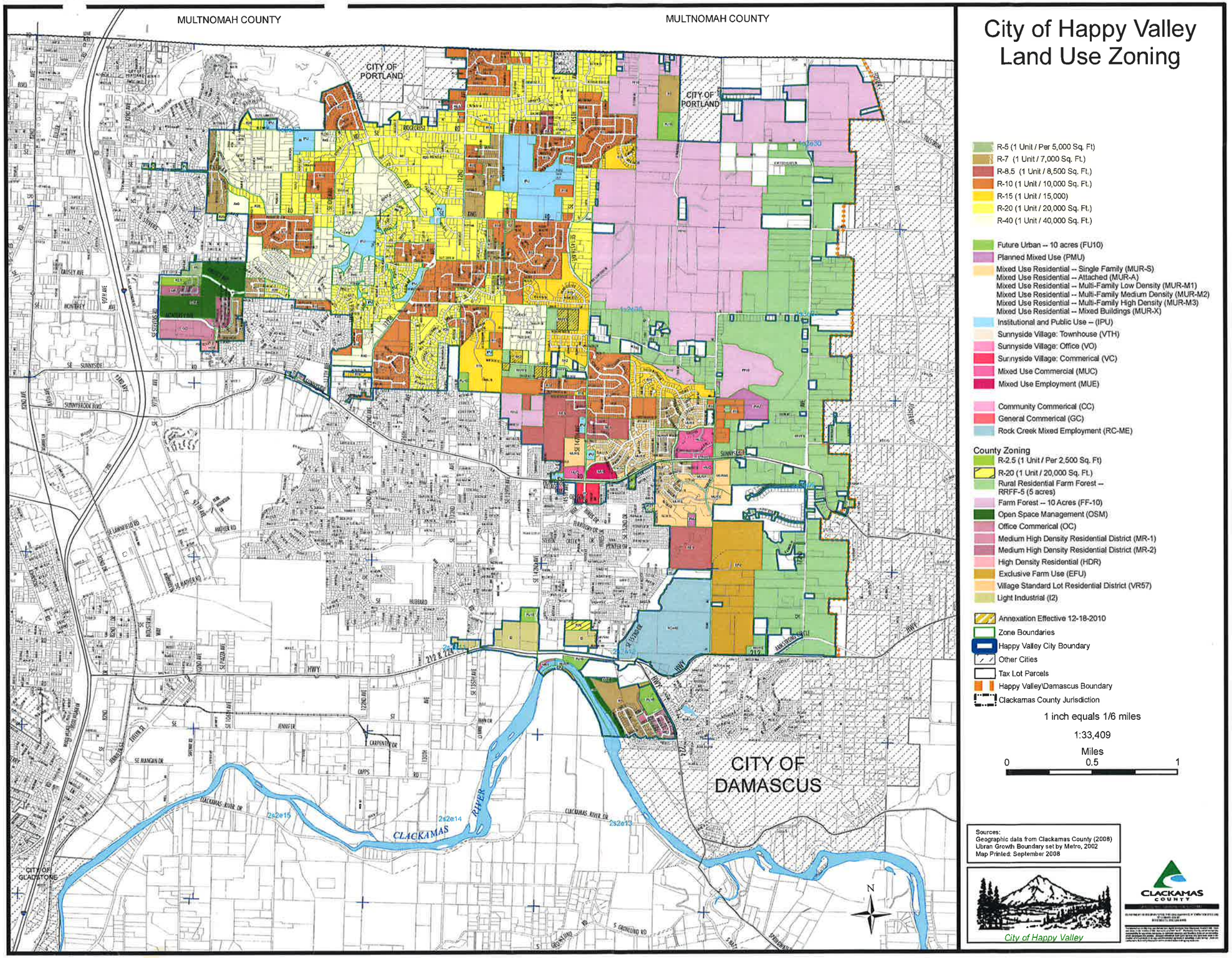
As observed, the proposed comprehensive plan designations/zoning districts will require future land development application approvals, which will require conformance with all applicable requirements of the codes, ordinances and regulations of the City of Happy Valley. In addition, the City has initiated the proposed Comprehensive Plan Map Amendment/Zone Change and has met the burden of proof of establishing to the Planning Commission that the proposed amendments meet all applicable criteria. Therefore, this criterion is satisfied by the proposed amendments.

F. When an application includes a proposed comprehensive plan amendment or land use district change, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060. If a Master Plan that requires a full traffic impact analysis is required for a comprehensive plan map amendment/zone change area, a subsequent Master Plan may satisfy this provision, as determined by the City of Happy Valley community development director or designee."

Staff Response:

The proposed Comprehensive Plan Map Amendment/Zone Change addresses the Transportation Planning Rule, as detailed in the findings, above. Therefore, this criterion is satisfied by the proposed amendments.

City of Happy Valley Land Use Zoning



Sources:
Geographic data from Clackamas County (2008)
Ubran Growth Boundary set by Metro, 2002
Map Printed: September 2008

EXHIBIT B

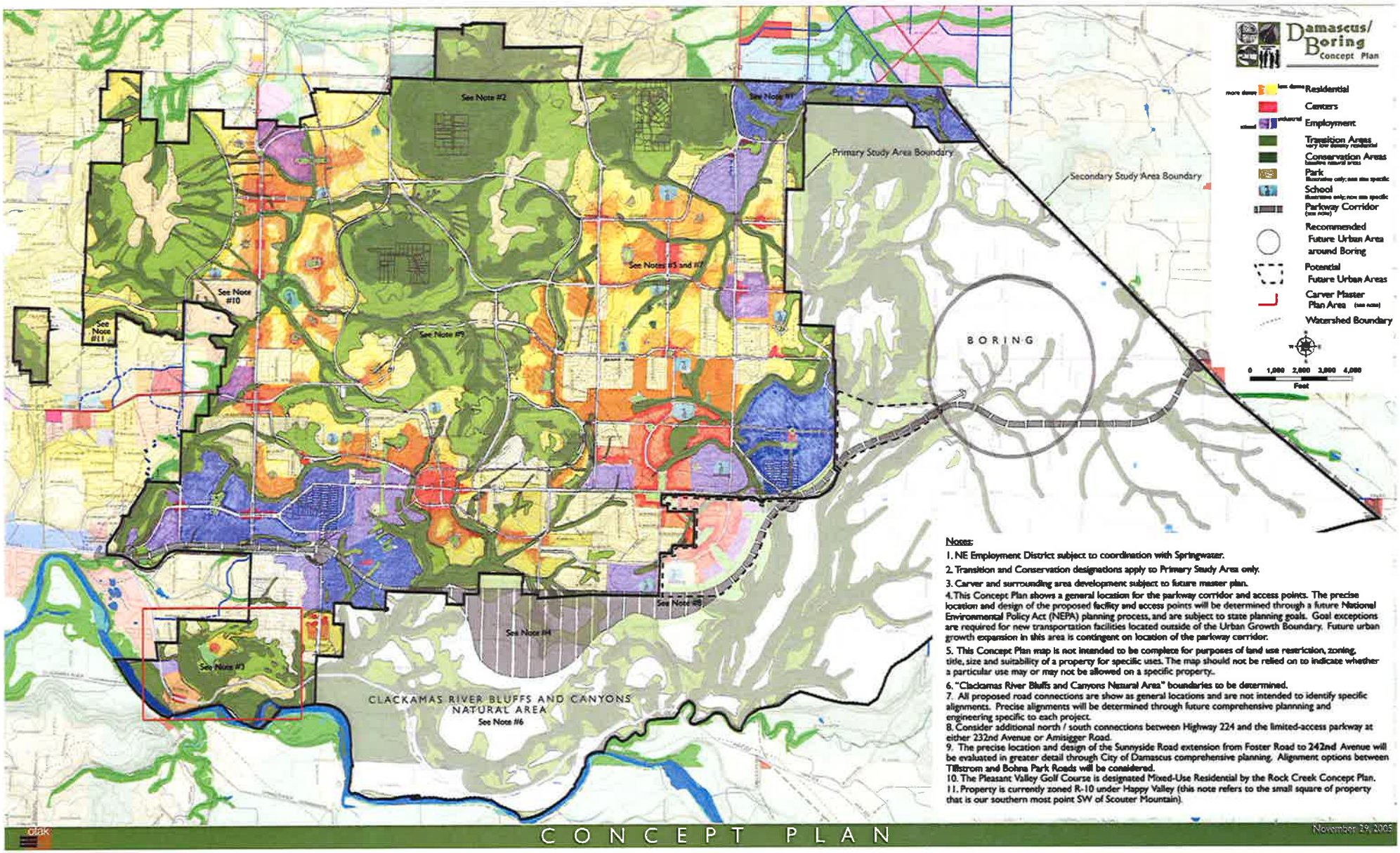

Damascus/
Boring
Concept Plan
more dense
less dense
Residential
Centers
Employment
industrial
mixed
Transition Areas
very low density residential
Conservation Areas
Park
School
Parkway Corridor
Recommended
Future Urban Area
around Boring
Potential
Future Urban Areas
Carver Master
Plan Area
Watershed Boundary
0 1,000 2,000 3,000 4,000
Feet
Primary Study Area Boundary
Secondary Study Area Boundary
BORING
See Note #2
See Note #1
See Notes #5 and #7
See Note #10
See Note #11
See Note #9
See Note #8
See Note #4
See Note #3
CLACKAMAS RIVER BLUFFS AND CANYONS
NATURAL AREA
See Note #6
Notes:
1. NE Employment District subject to coordination with Springwater.
2. Transition and Conservation designations apply to Primary Study Area only.
3. Carver and surrounding area development subject to future master plan.
4. This Concept Plan shows a general location for the parkway corridor and access points. The precise location and design of the proposed facility and access points will be determined through a future National Environmental Policy Act (NEPA) planning process, and are subject to state planning goals. Goal exceptions are required for new transportation facilities located outside of the Urban Growth Boundary. Future urban growth expansion in this area is contingent on location of the parkway corridor.
5. This Concept Plan map is not intended to be complete for purposes of land use restriction, zoning, title, size and suitability of a property for specific uses. The map should not be relied on to indicate whether a particular use may or may not be allowed on a specific property..
6. "Clackamas River Bluffs and Canyons Natural Area" boundaries to be determined.
7. All proposed road connections are show as general locations and are not intended to identify specific alignments. Precise alignments will be determined through future comprehensive plannning and engineering specific to each project.
8. Consider additional north / south connections between Highway 224 and the limited-access parkway at either 232nd Avenue or Amisigger Road.
9. The precise location and design of the Sunnyside Road extension from Foster Road to 242nd Avenue will be evaluated in greater detail through City of Damascus comprehensive planning. Alignment options between Tillstrom and Bohna Park Roads will be considered.
10. The Pleasant Valley Golf Course is designated Mixed-Use Residential by the Rock Creek Concept Plan.
11. Property is currently zoned R-10 under Happy Valley (this note refers to the small square of property that is our southern most point SW of Scouter Mountain).
otak
CONCEPT PLAN
November 29, 2005

EXHIBIT C

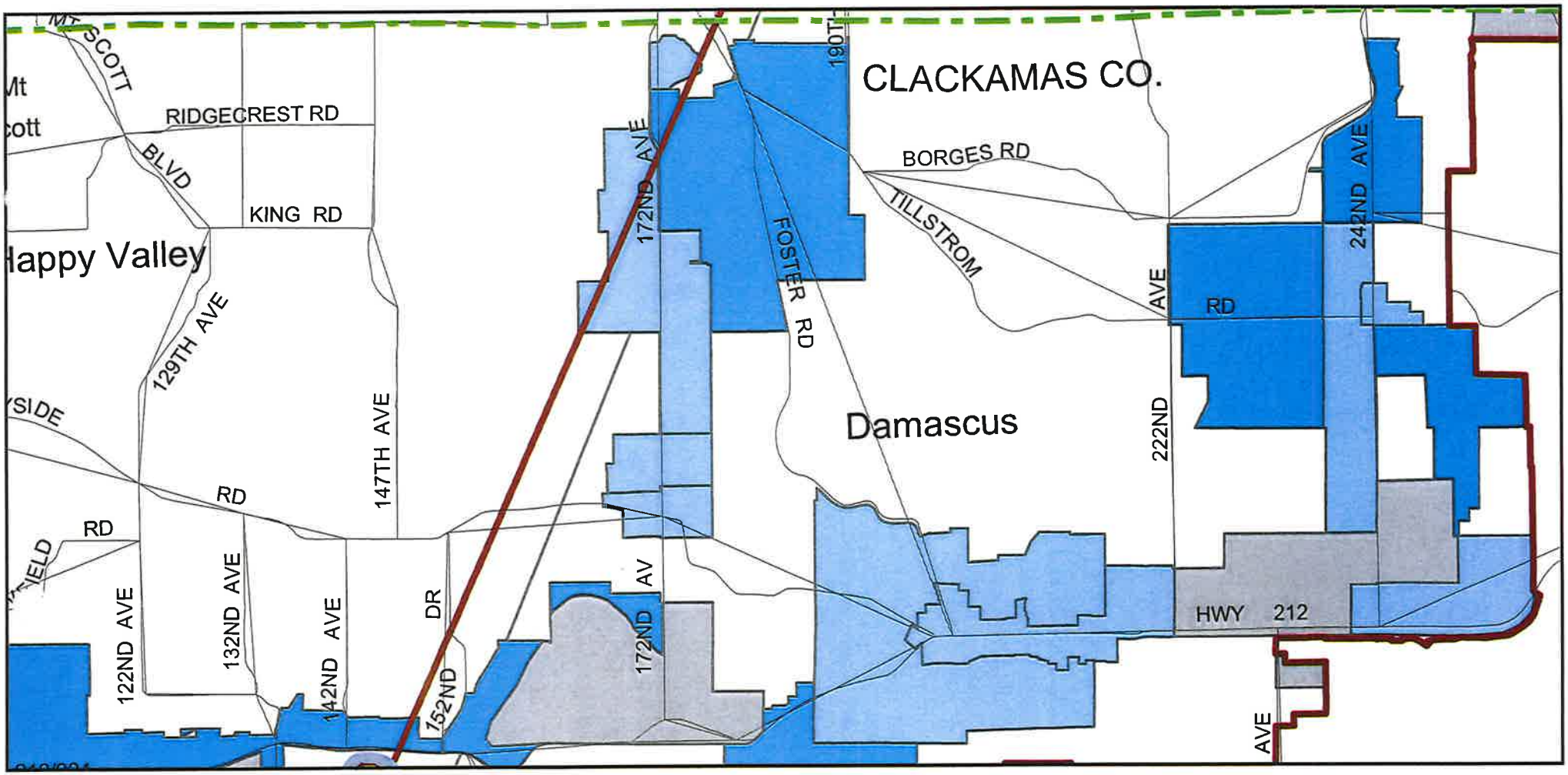

CLACKAMAS CO.
Happy Valley
Damascus
RIDGECREST RD
BLVD
KING RD
129TH AVE
147TH AVE
122ND AVE
132ND AVE
142ND AVE
152ND
172ND AVE
190TH
FOSTER RD
BORGES RD
TILLSTROM
222ND
242ND AVE
HWY 212
Employment Land
Industrial Land
Regionally Significant Industrial Area

EXHIBIT D

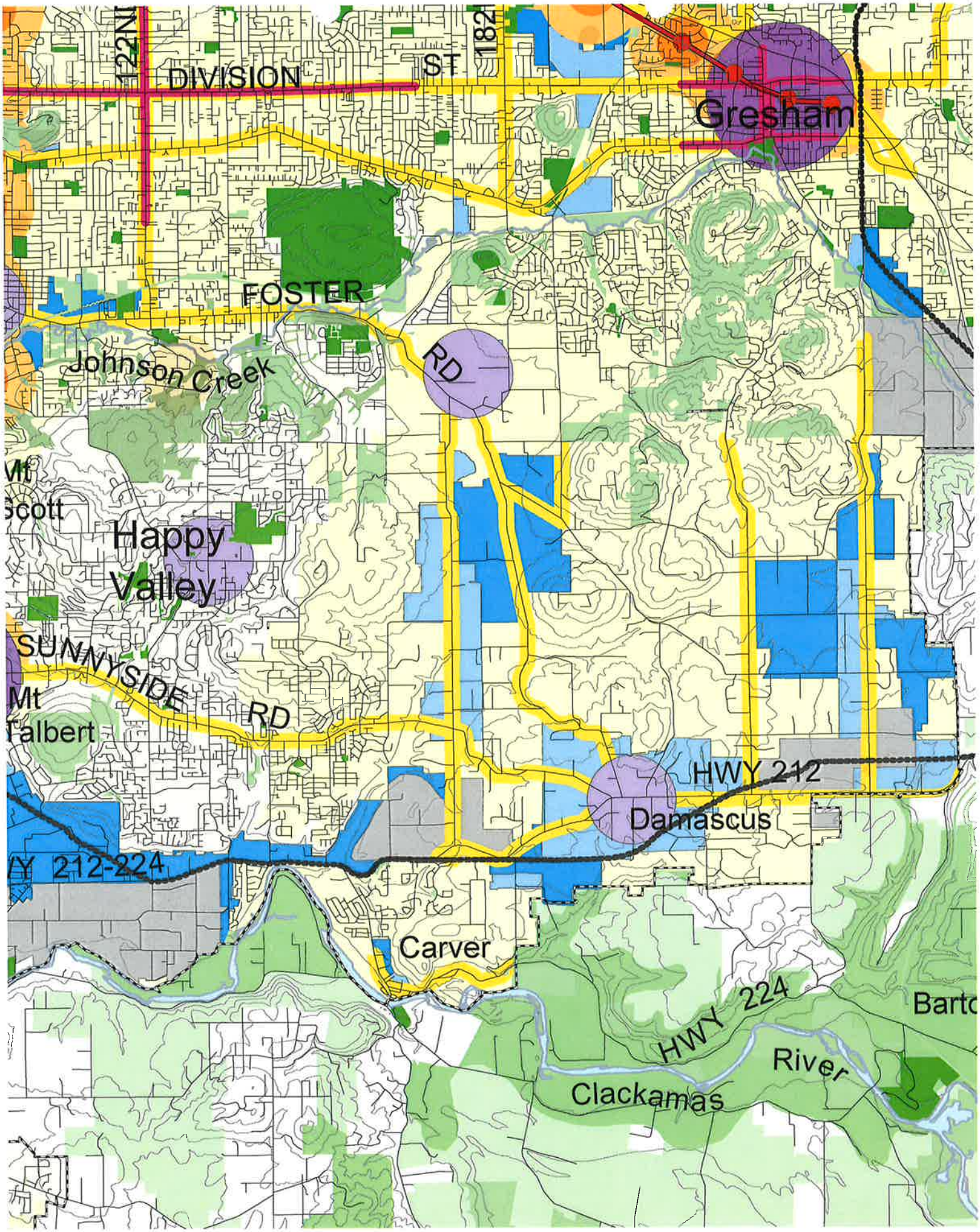
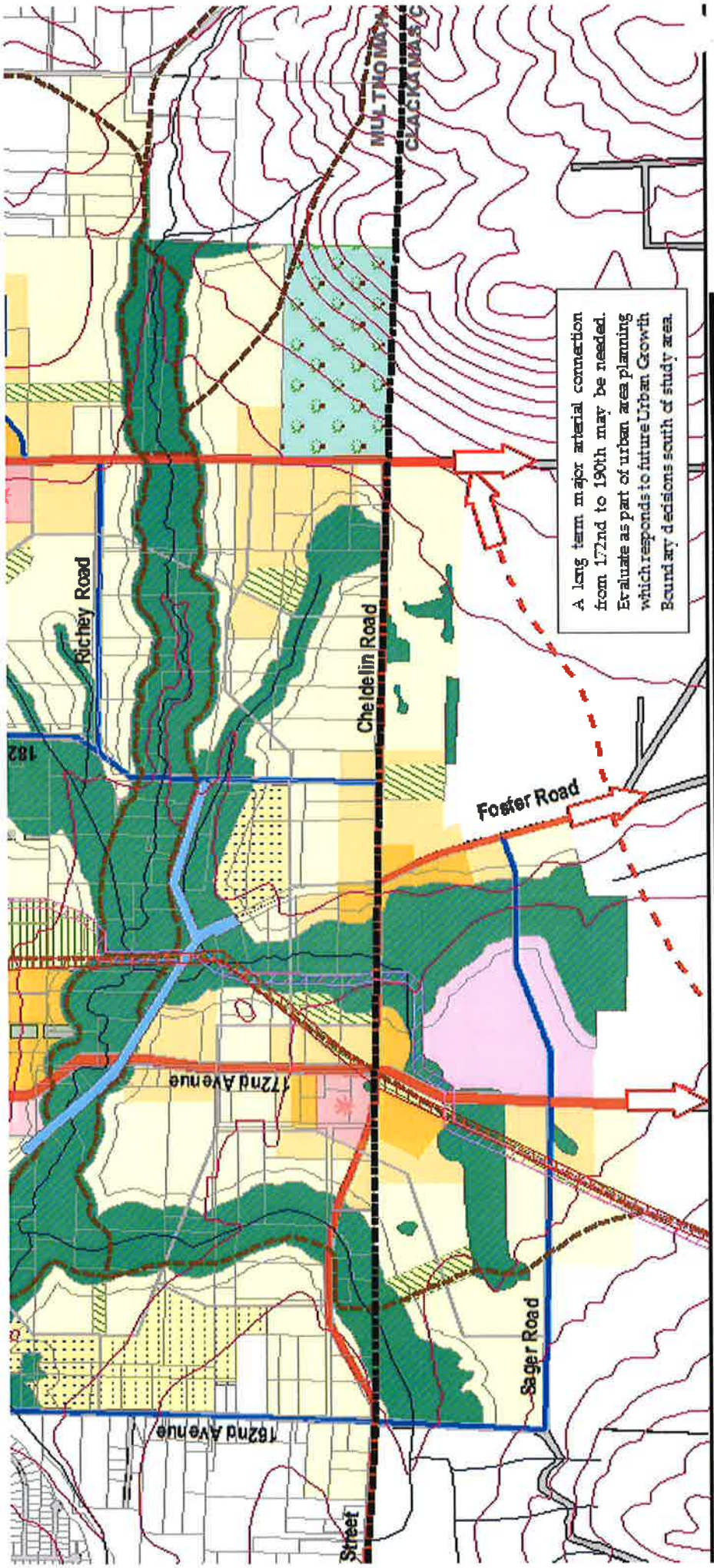

122ND
DIVISION
ST
182ND
Gresham
FOSTER
RD
Johnson Creek
Mt
Scott
Happy
Valley
SUNNYSIDE
RD
Mt
Talbert
HWY 212
Damascus
HWY 212-224
Carver
HWY 224
River
Clackamas
Barto

EXHIBIT E



PLAN MAP
JANUARY 6, 2005

LEGEND

SUB-DISTRICTS

- LOW DENSITY RESIDENTIAL - FV
- MEDIUM DENSITY RESIDENTIAL - FV
- HIGH DENSITY RESIDENTIAL - FV
- TOWN CENTER - FV
- NEIGHBORHOOD CENTER - FV
- MIXED-USE EMPLOYMENT - FV
- EMPLOYMENT - FV
- ENVIRONMENTAL SENSITIVE/ RESTORATION AREAS - FV

OVERLAY SUB-DISTRICTS

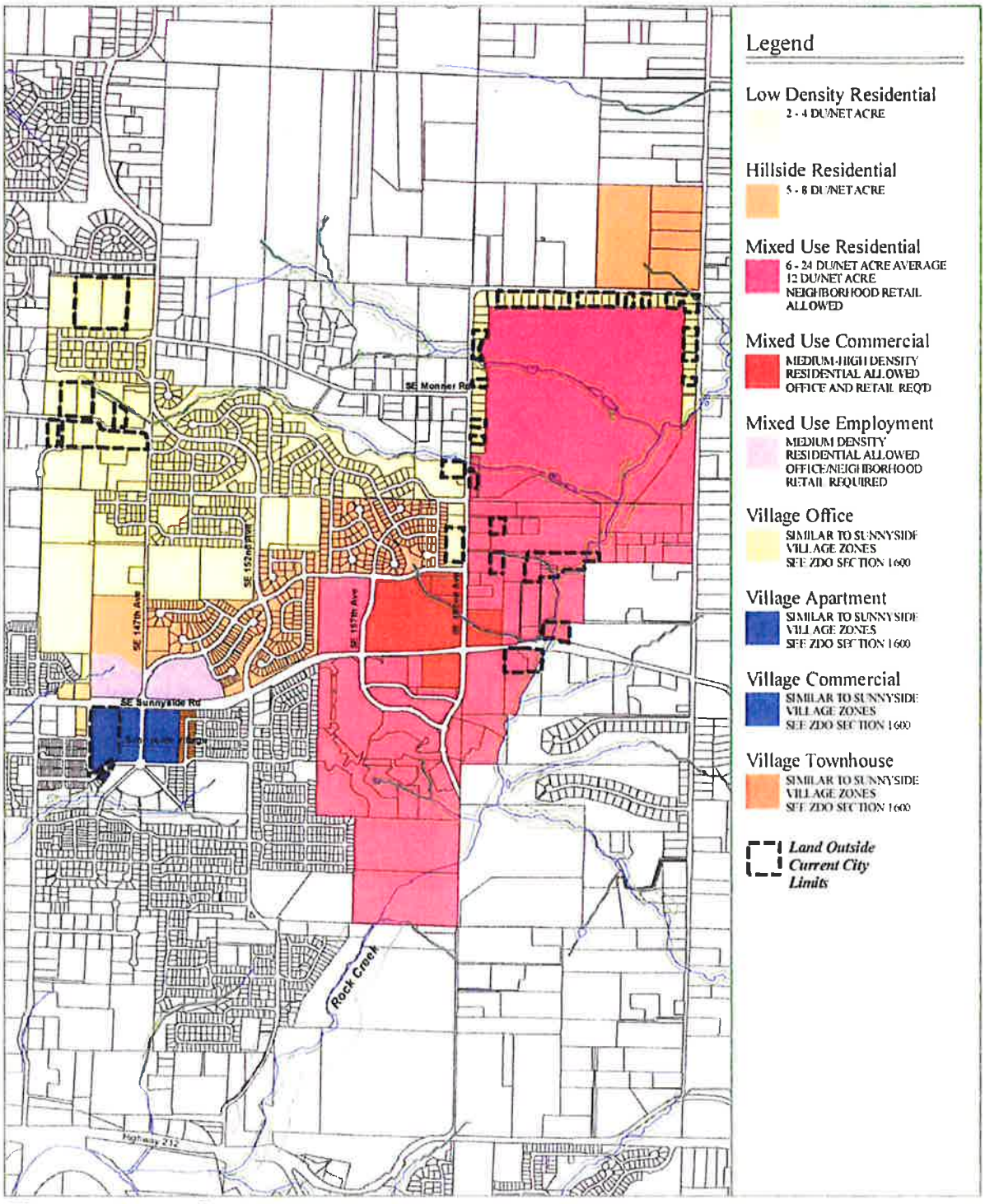
- ELEMENTARY SCHOOL - FV
- MIDDLE SCHOOL - FV
- NEIGHBORHOOD PARK - FV
- COMMUNITY PARK - FV
- NEIGHBORHOOD TRANSITION DESIGN AREA - FV
- METRO OPEN SPACE

DESIGN ELEMENTS

- PLAZA
- PARK BLOCK

plandistrict_COGL104-Revised

EXHIBIT F



Rock Creek Area

Land Use Plan

0' 450 900 1800

Rock Creek Comprehensive Plan
Adopted June 5, 2001
Amended October, 2007, Ord. #363

Figure 4

EXHIBIT G

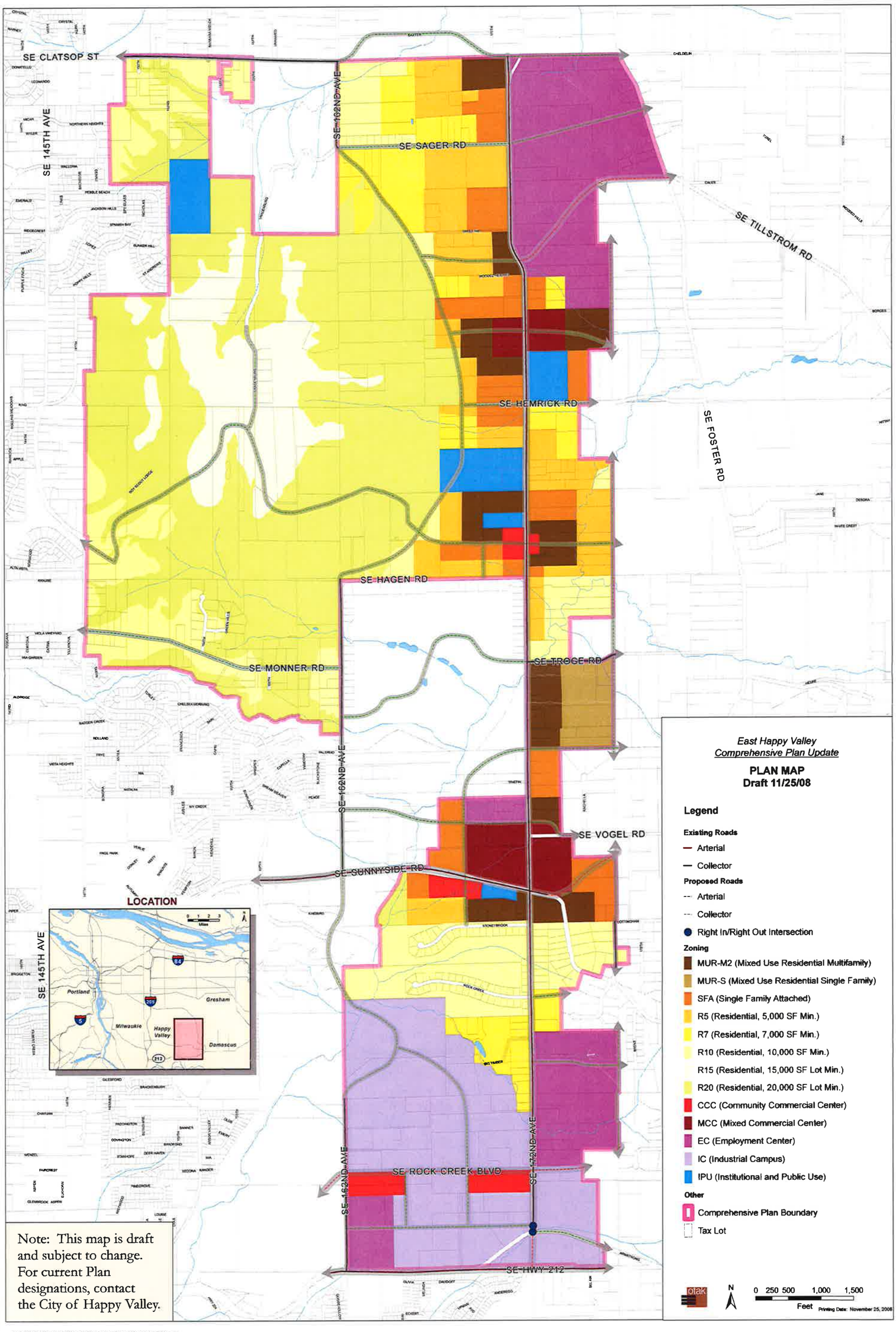
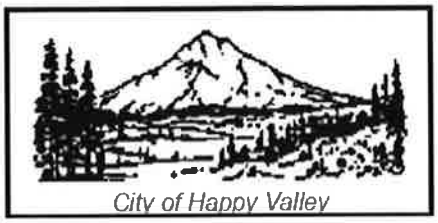

SE CLATSOP ST
SE 145TH AVE
SE 162ND AVE
SE SAGER RD
SE TILLSTROM RD
SE HEMRICK RD
SE FOSTER RD
SE HAGEN RD
SE MONNER RD
SE TROGE RD
SE VOGEL RD
SE SUNNYSIDE RD
SE 172ND AVE
SE ROCK CREEK BLVD
SE HWY 212
LOCATION
Portland
Gresham
Milwaukie
Happy Valley
Damascus
East Happy Valley
Comprehensive Plan Update
PLAN MAP
Draft 11/25/08
Legend
Existing Roads
Arterial
Collector
Proposed Roads
Arterial
Collector
Right In/Right Out Intersection
Zoning
MUR-M2 (Mixed Use Residential Multifamily)
MUR-S (Mixed Use Residential Single Family)
SFA (Single Family Attached)
R5 (Residential, 5,000 SF Min.)
R7 (Residential, 7,000 SF Min.)
R10 (Residential, 10,000 SF Min.)
R15 (Residential, 15,000 SF Lot Min.)
R20 (Residential, 20,000 SF Lot Min.)
CCC (Community Commercial Center)
MCC (Mixed Commercial Center)
EC (Employment Center)
IC (Industrial Campus)
IPU (Institutional and Public Use)
Other
Comprehensive Plan Boundary
Tax Lot
N
0 250 500 1,000 1,500
Feet
Printing Date: November 25, 2008
Note: This map is draft and subject to change. For current Plan designations, contact the City of Happy Valley.

EXHIBIT H



Draft City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map Book

Map Version: Open House Review Draft

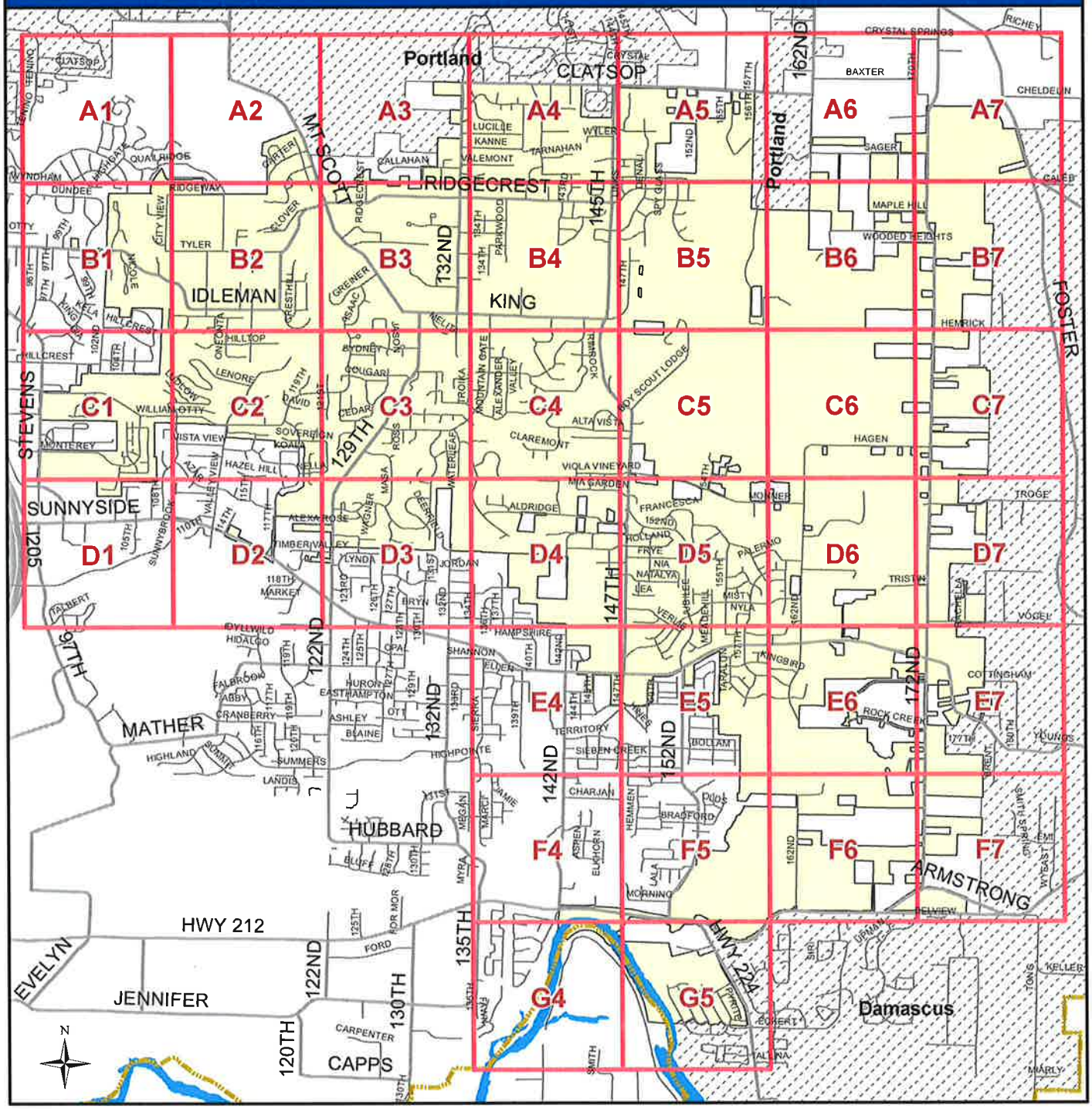
Published: November 13, 2008

The following maps were originally presented at the October 28, 2008 Open House. For ease of downloading and use, they have been reformatted into a map book with tiled pages. The data shown on the map is unchanged from the Open House Review Draft. An index of the map pages is shown on page 2; use this index to find the correct page of the map book.

The information presented in these maps is for advisory purposes only. Actual locations of natural features and legal boundary lines may differ from those shown on the map. For information on the sources and currency of the data shown, please see the final page of the map book.

EXHIBIT I

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map Book Index



Legend

- Map Book Pages

City Limits

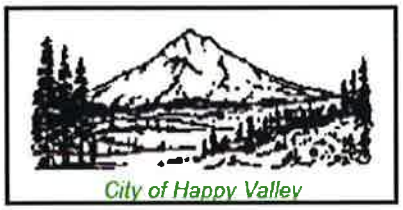
- Happy Valley City Limits
- Other Cities
- Urban Growth Boundary

Roads

- Freeways
- Major Streets
- Local Roads
- Clackamas River

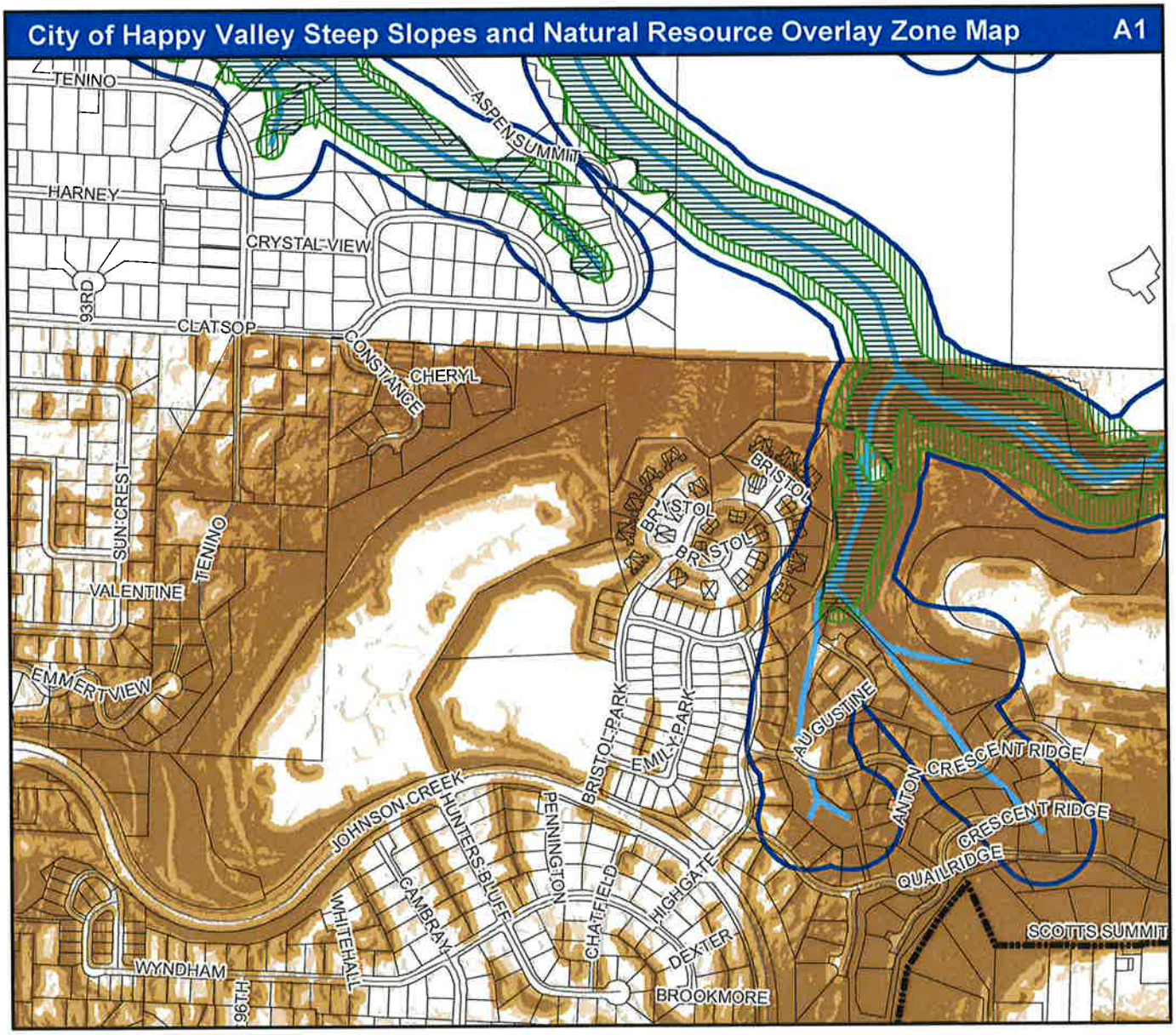
0 0.25 0.5 1 Miles

Map Printed: November 2008



City of Happy Valley

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A1



Open House Review Draft: October 28, 2008

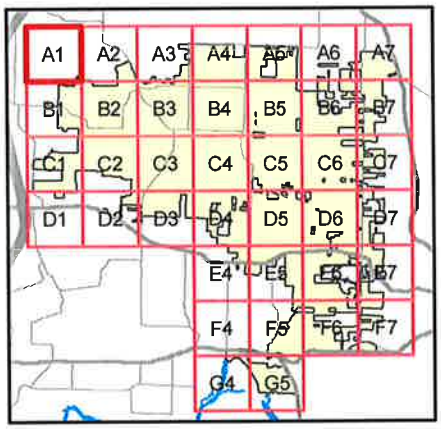
Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas
- High Value
- Moderate Value
- Low Value

Steep Slopes
- Conservation Slope Area
- 25 Foot Buffer from Conservation Slope Area
- Transition Slope Area
- Major Utility Corridor

Boundaries
- Happy Valley City Limits
- Urban Growth Boundary
- Parcel Boundaries

Roads
- Freeways
- Major Streets
- Local Roads



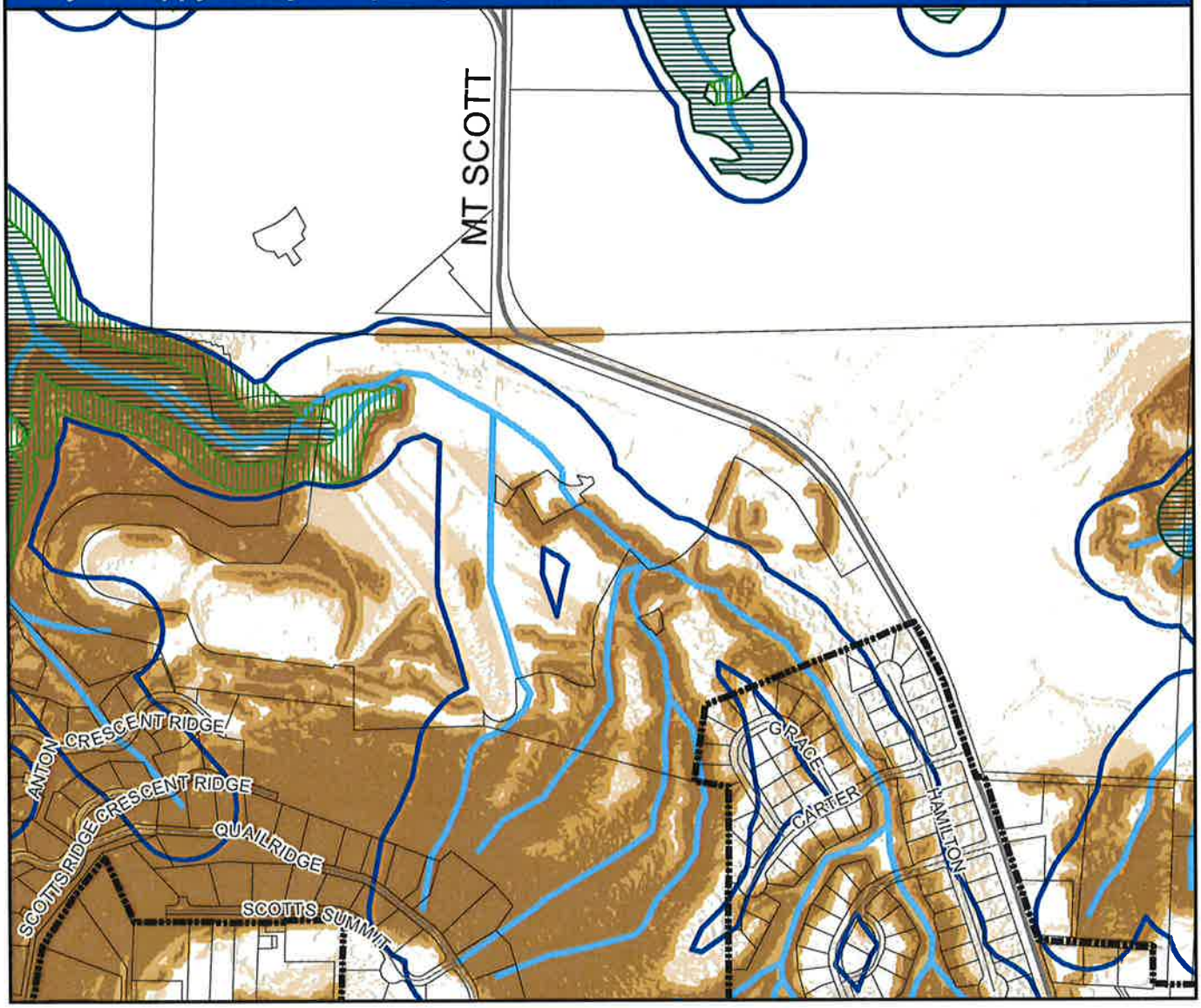
1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

The information presented in this map is for advisory purposes only. Actual locations of natural features and legal boundary lines may differ from those shown on the map.

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A2



Open House Review Draft: October 28, 2008

Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas
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- Major Utility Corridor

Boundaries
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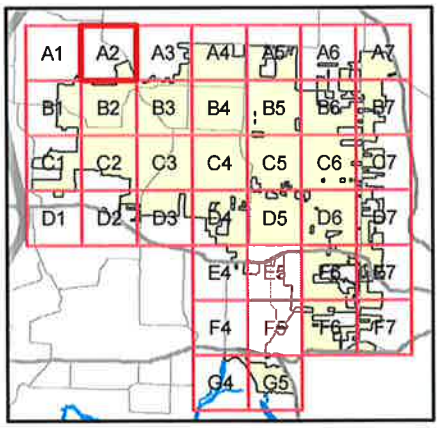
- Parcel Boundaries

Roads
- Freeways
- Major Streets
- Local Roads



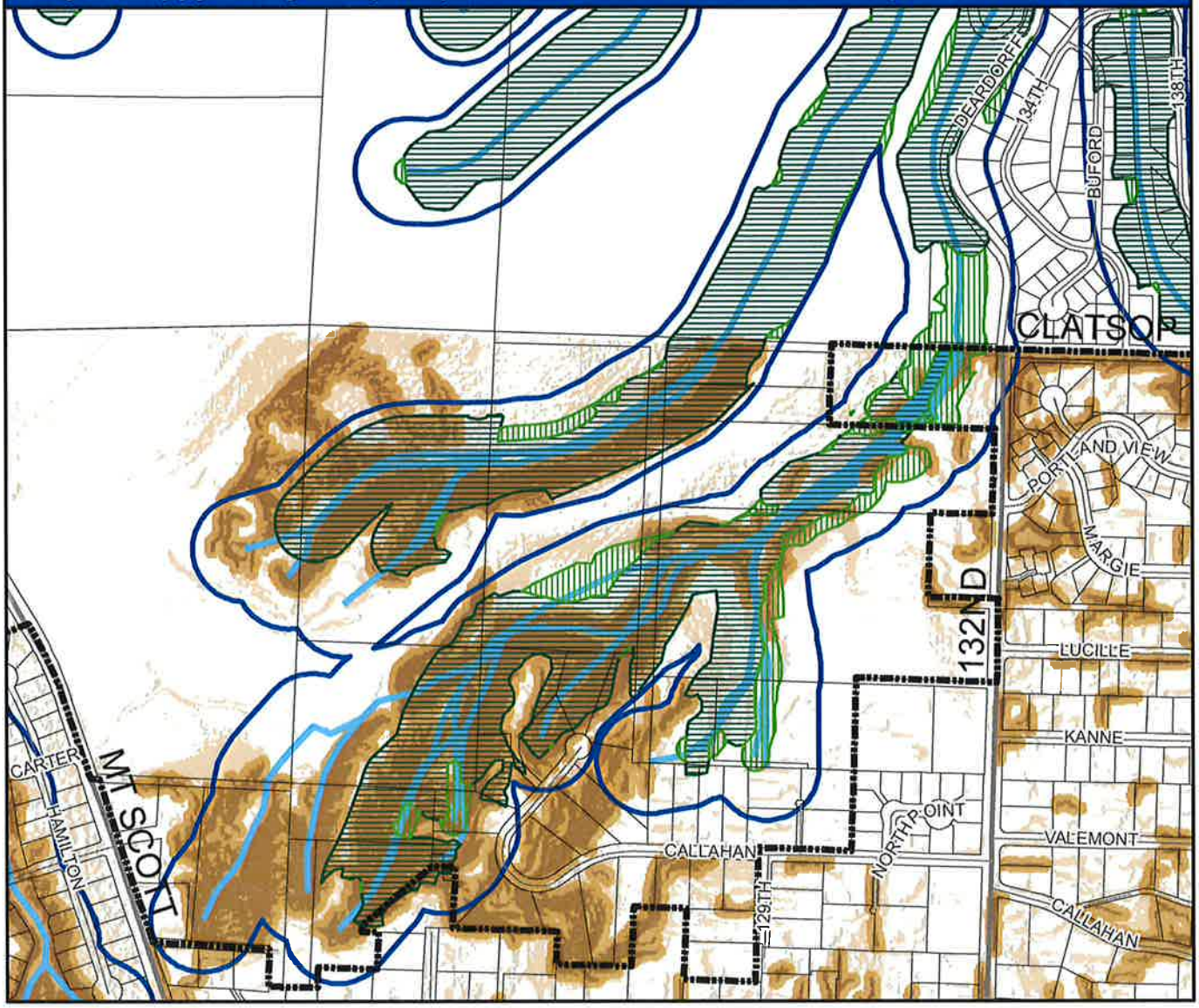
1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

The information presented in this map is for advisory purposes only. Actual locations of natural features and legal boundary lines may differ from those shown on the map.

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A3



Open House Review Draft: October 28, 2008

Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas
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Roads
- Freeways
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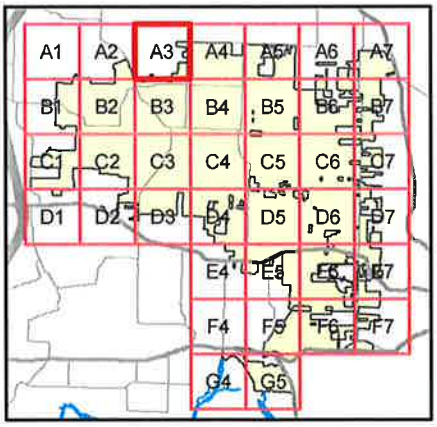
- Local Roads



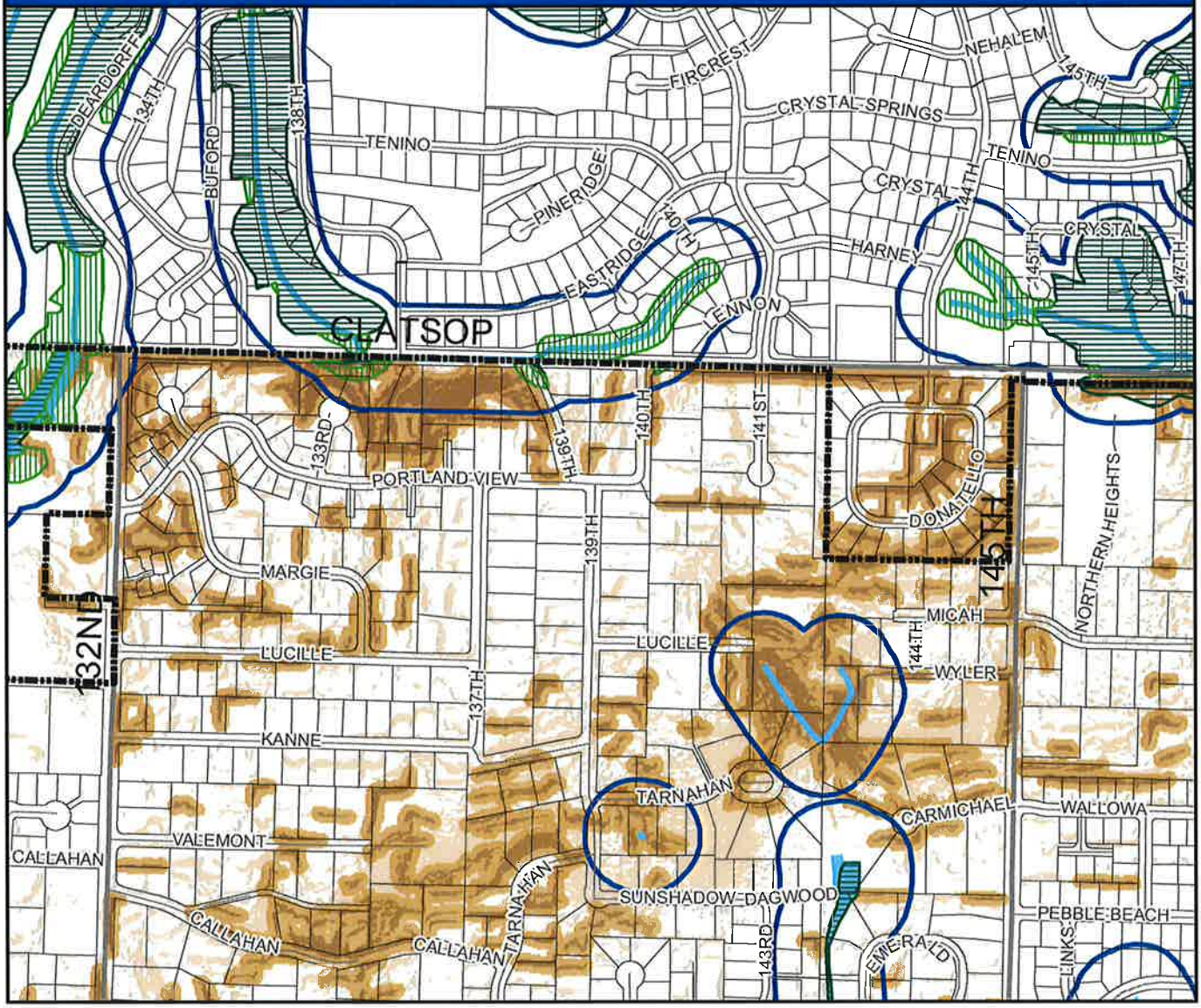
1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

The information presented in this map is for advisory purposes only. Actual locations of natural features and legal boundary lines may differ from those shown on the map.

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A4



Open House Review Draft: October 28, 2008

Water Quality Areas

- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas

- High Value
- Moderate Value
- Low Value

Steep Slopes

- Conservation Slope Area
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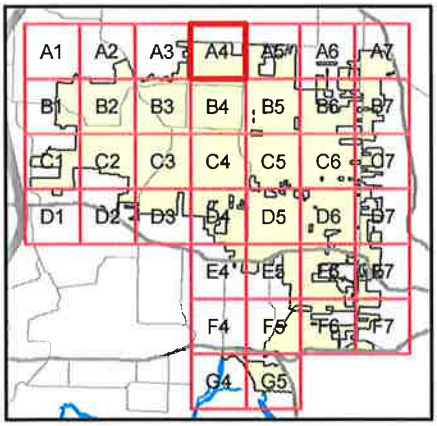
- Major Utility Corridor

Boundaries

- Happy Valley City Limits
- Urban Growth Boundary
- Parcel Boundaries

Roads

- Freeways
- Major Streets
- Local Roads



1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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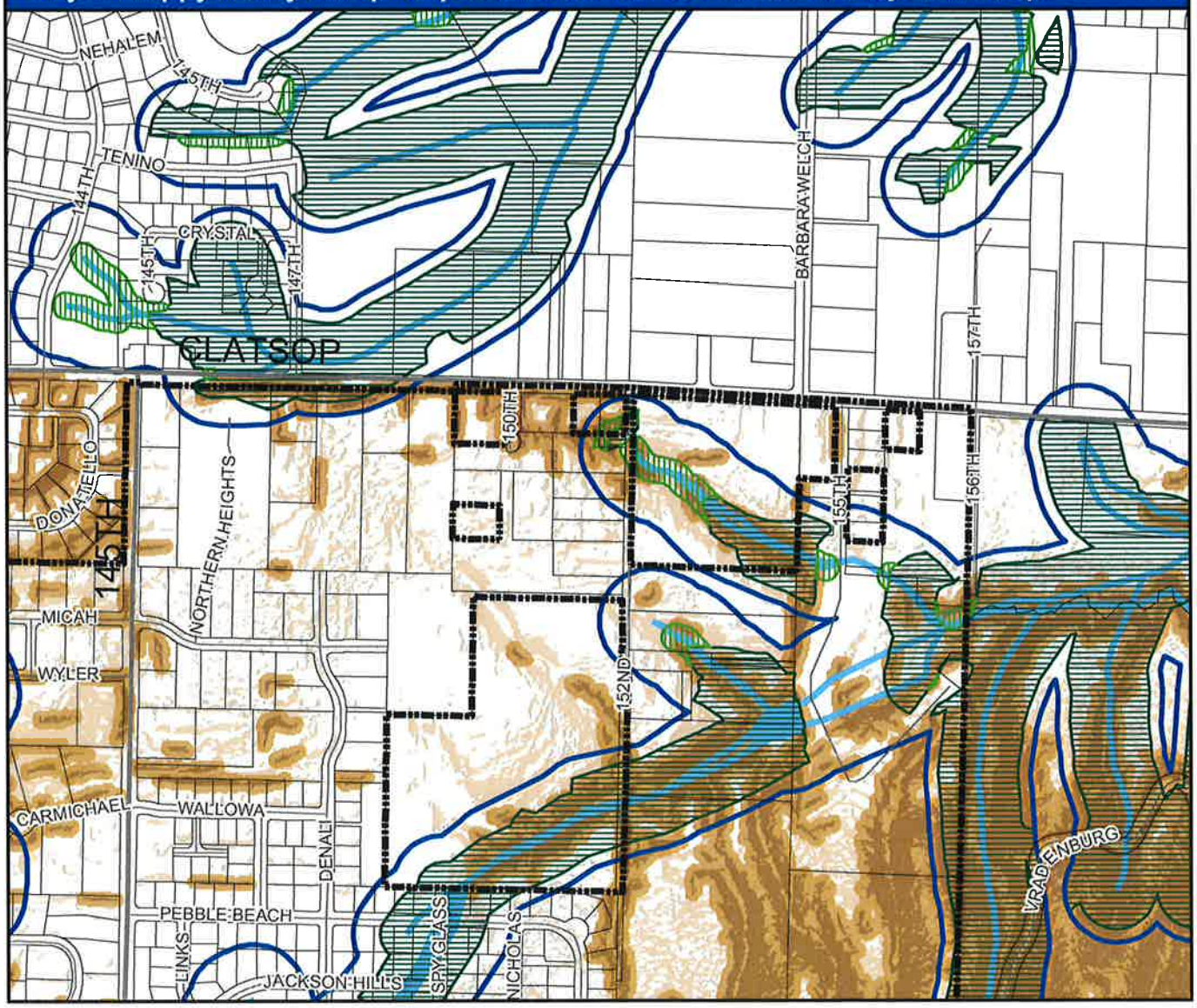
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A5



Open House Review Draft: October 28, 2008

Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

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- Happy Valley City Limits
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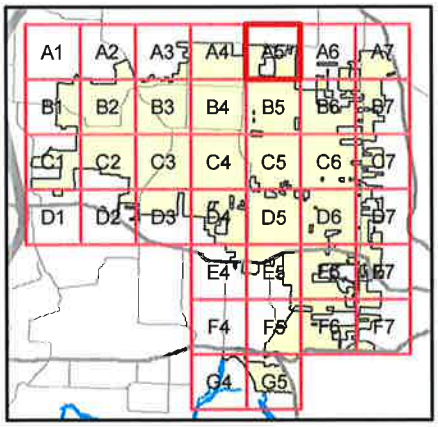
- Freeways
- Major Streets
- Local Roads



1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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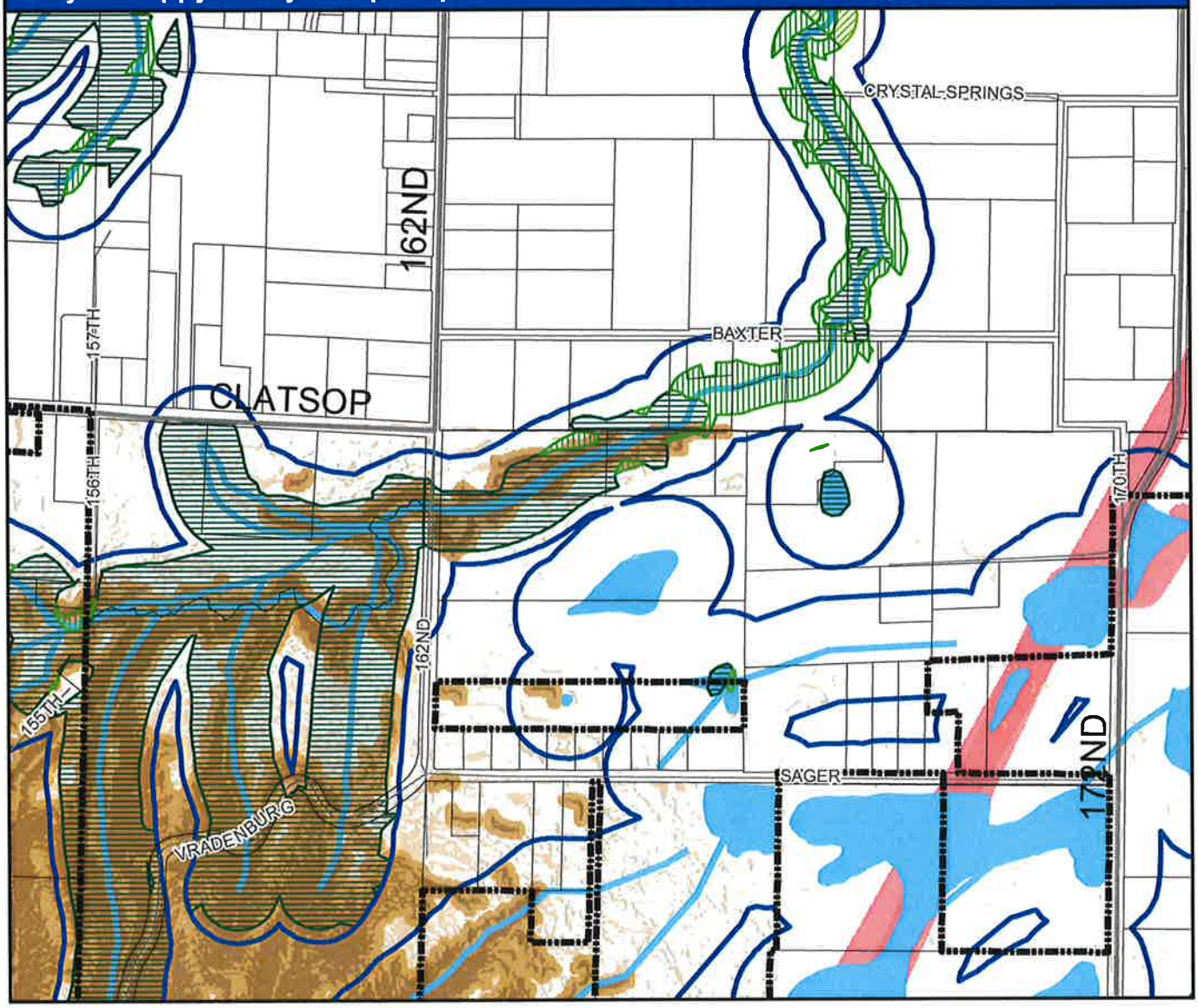
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A6



Open House Review Draft: October 28, 2008

Water Quality Areas
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- Freeways
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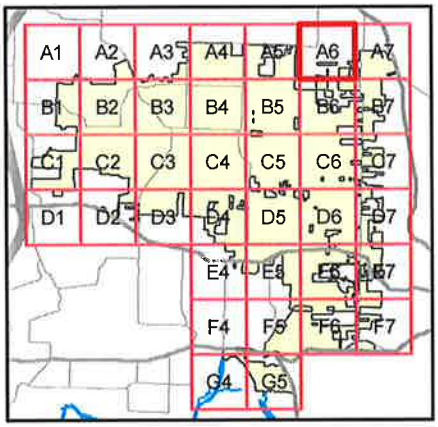

1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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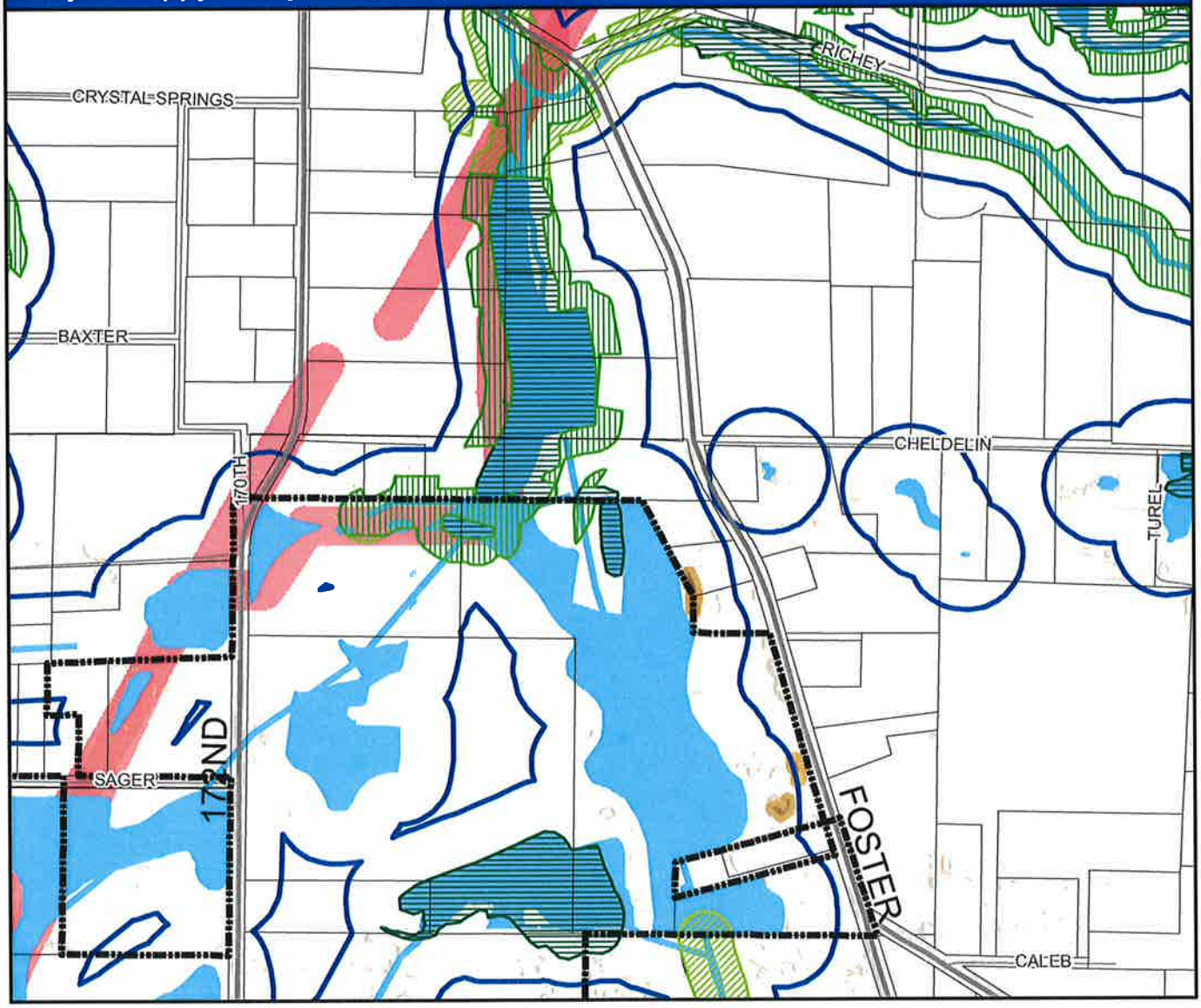
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map A7



Open House Review Draft: October 28, 2008

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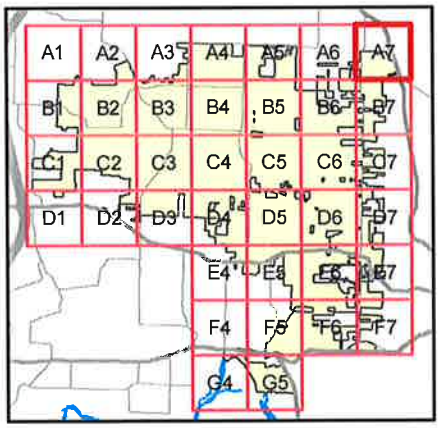

1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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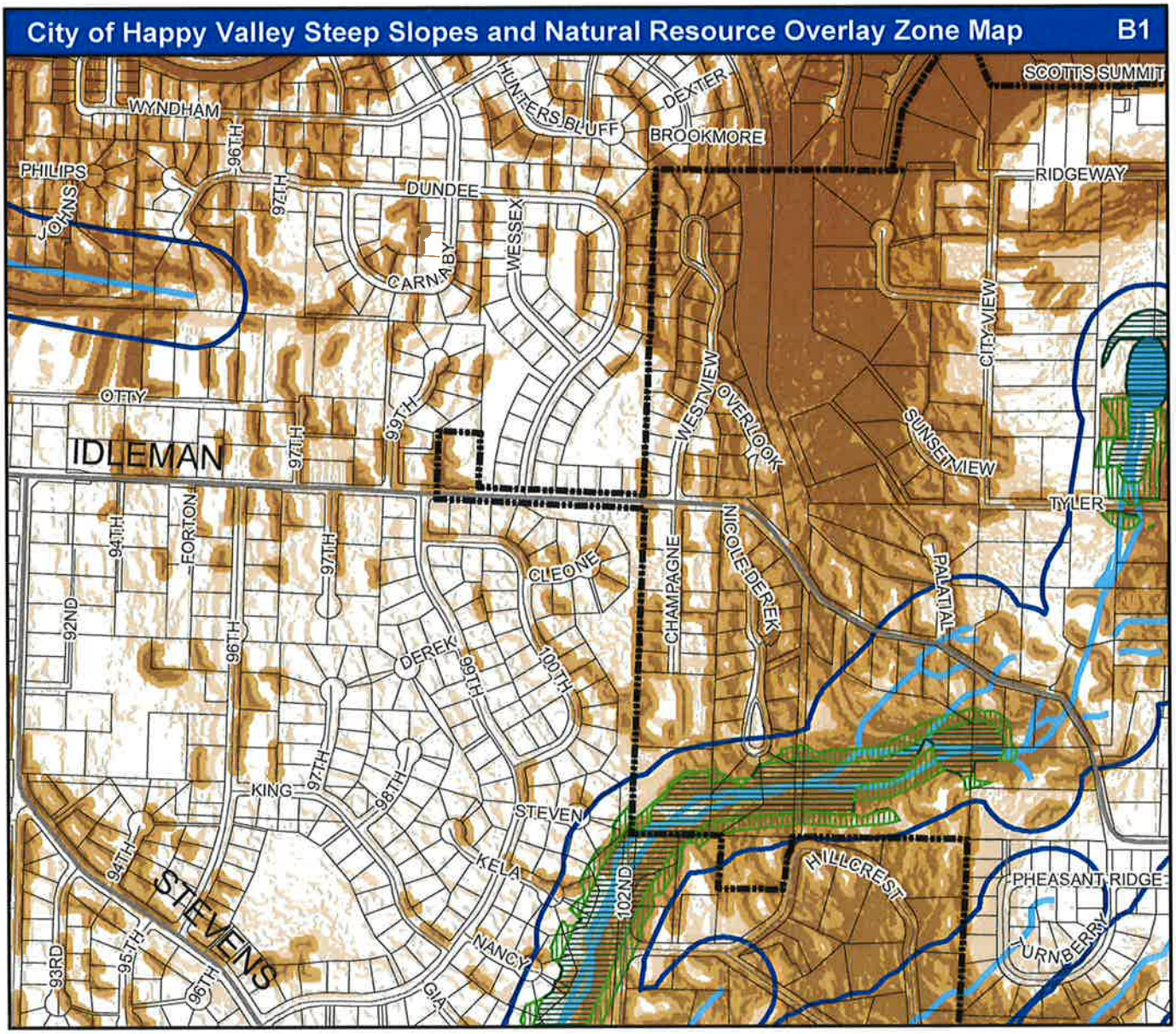
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B1



Open House Review Draft: October 28, 2008

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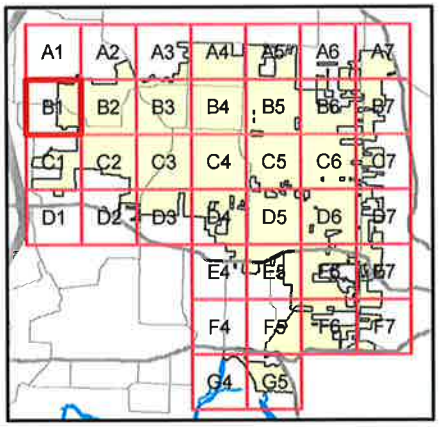

1 inch = 600 feet

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Plot Date: Nov 06, 2008

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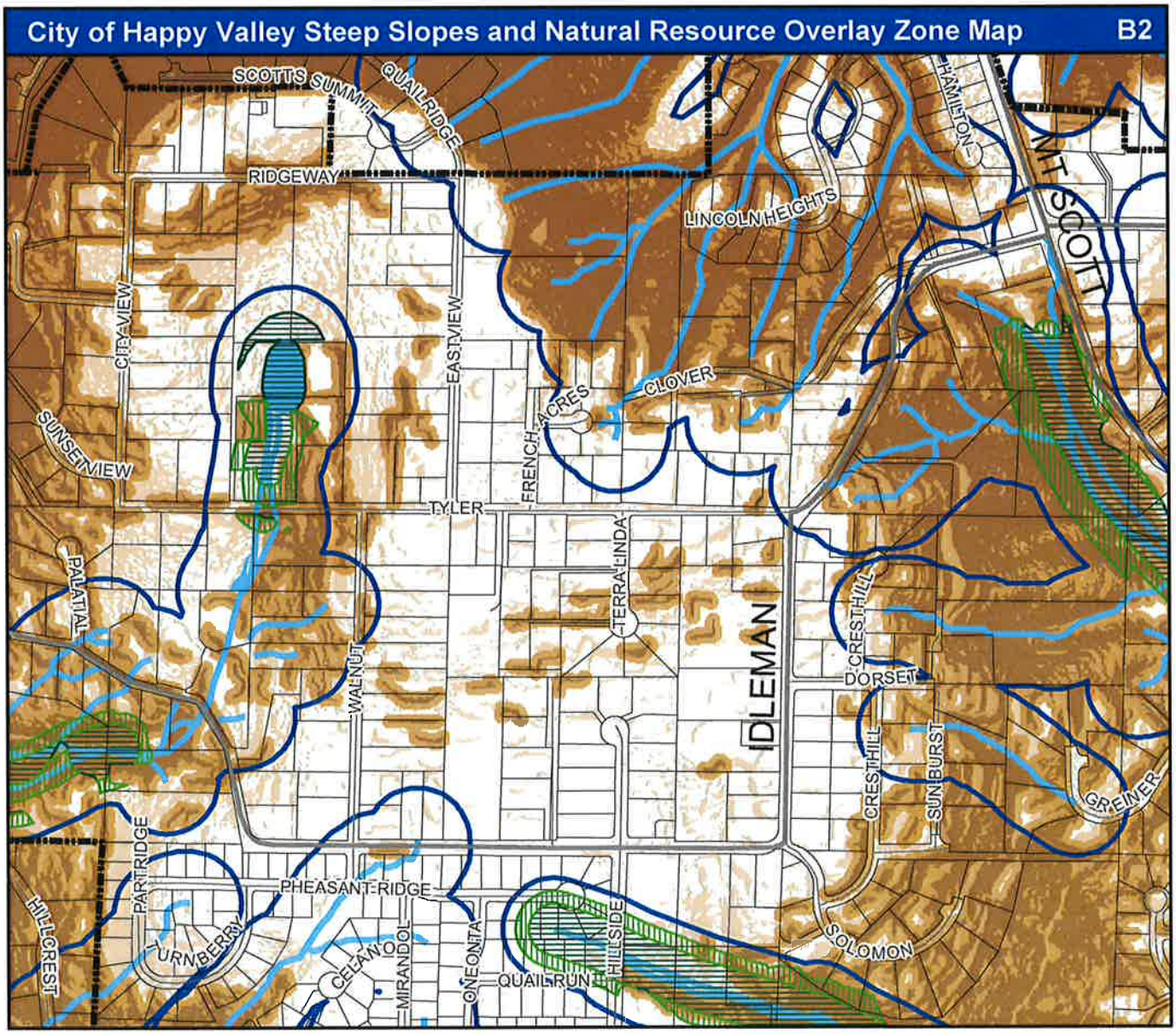
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B2



Open House Review Draft: October 28, 2008

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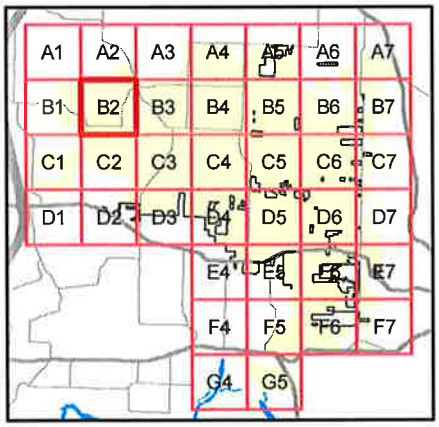

1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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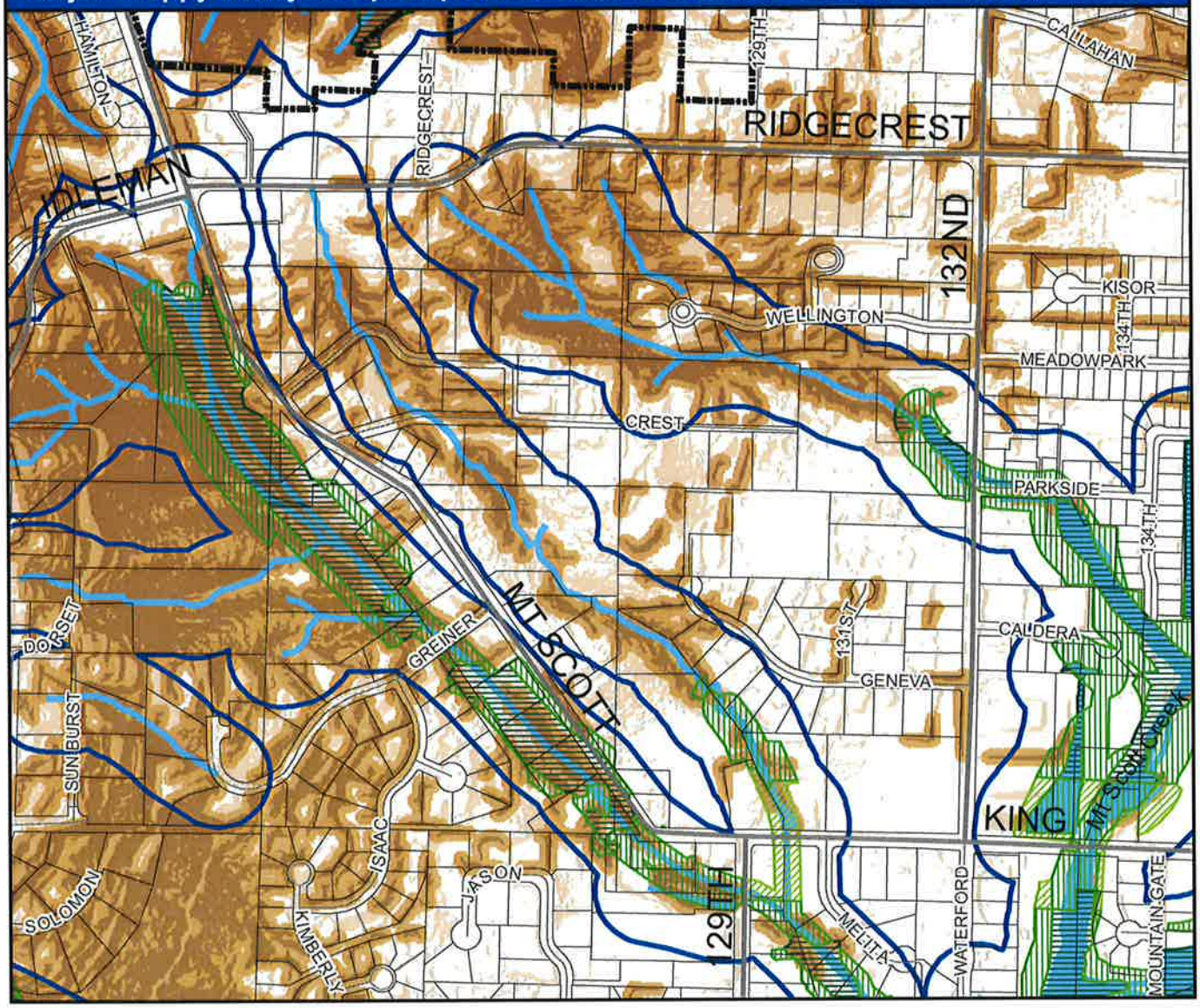
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B3



Open House Review Draft: October 28, 2008

Water Quality Areas

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- Maximum Extent of Vegetated Corridors

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- Freeways
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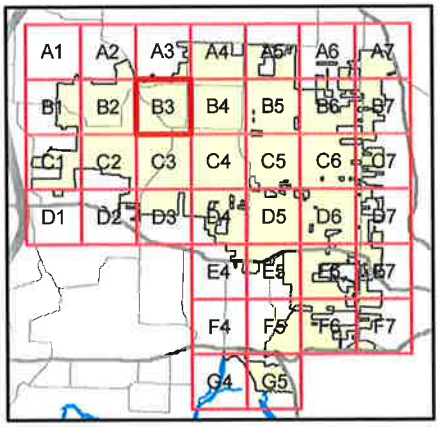
- Local Roads



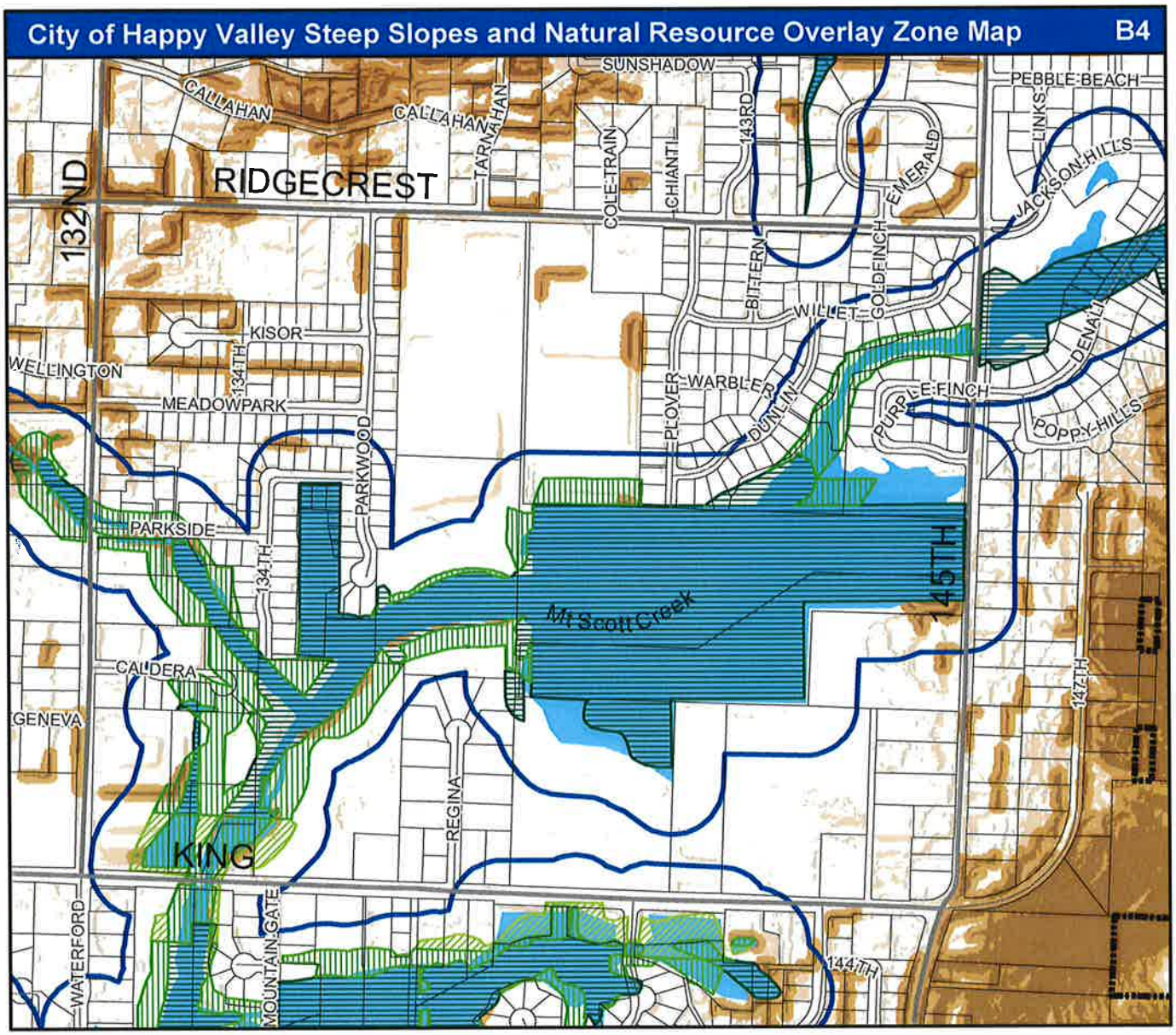
1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

The information presented in this map is for advisory purposes only. Actual locations of natural features and legal boundary lines may differ from those shown on the map.

City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B4



Open House Review Draft: October 28, 2008

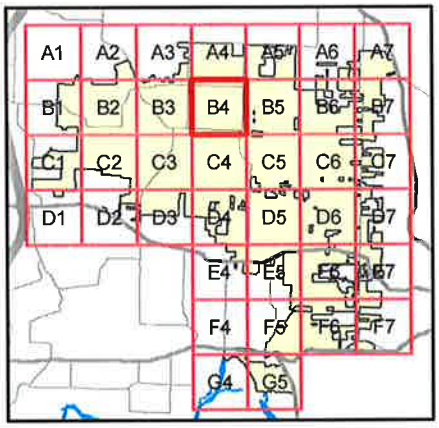
Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas
- High Value
- Moderate Value
- Low Value

Steep Slopes
- Conservation Slope Area
- 25 Foot Buffer from Conservation Slope Area
- Transition Slope Area
- Major Utility Corridor

Boundaries
- Happy Valley City Limits
- Urban Growth Boundary
- Parcel Boundaries

Roads
- Freeways
- Major Streets
- Local Roads



1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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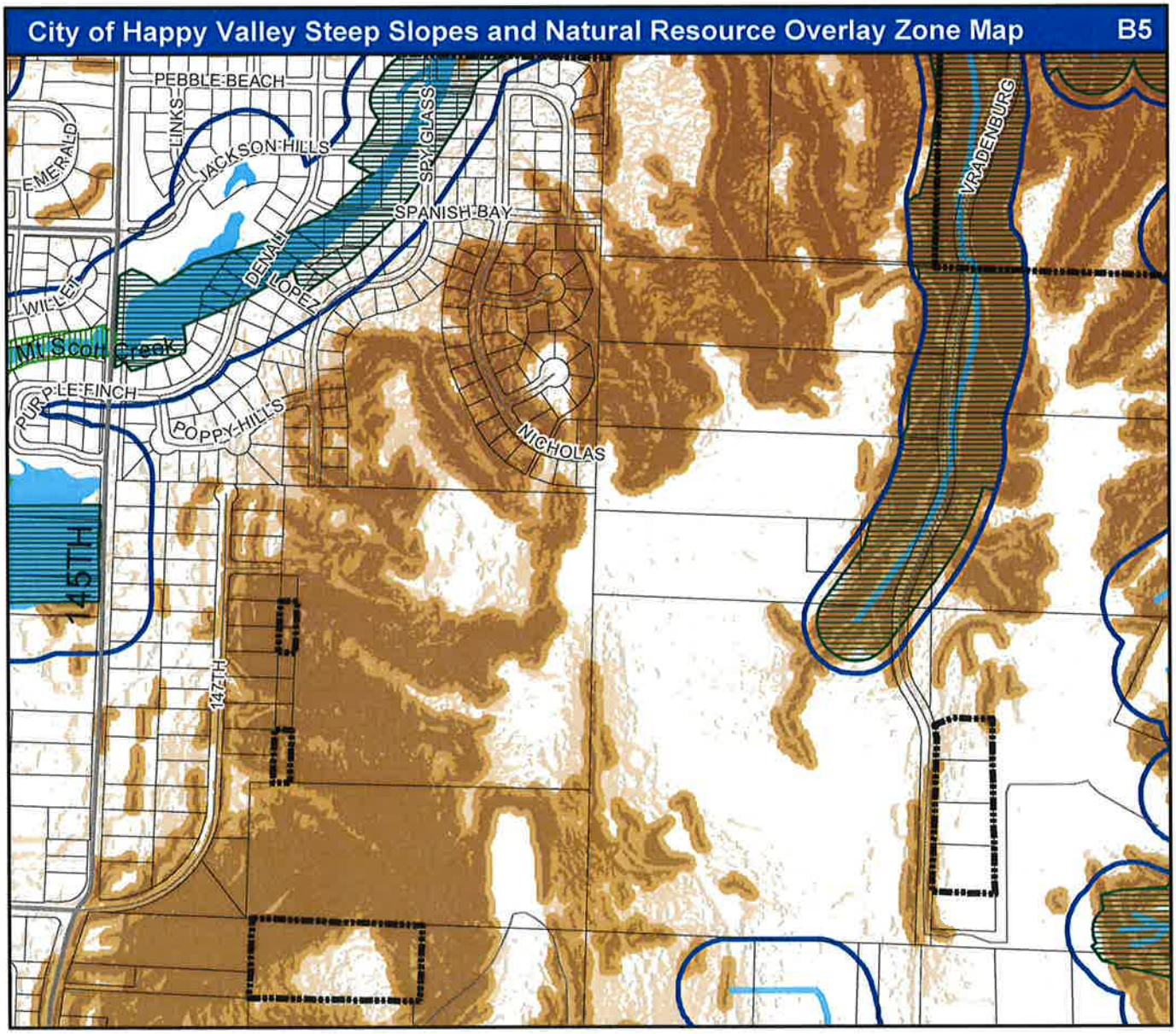
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B5



Open House Review Draft: October 28, 2008

Water Quality Areas
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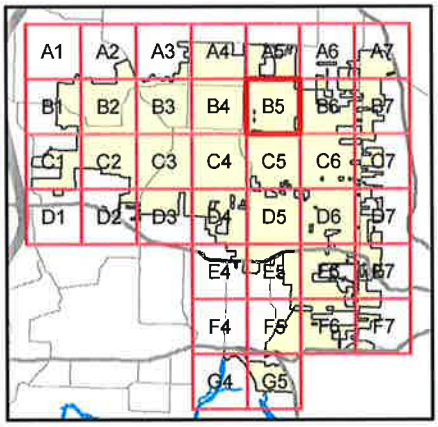

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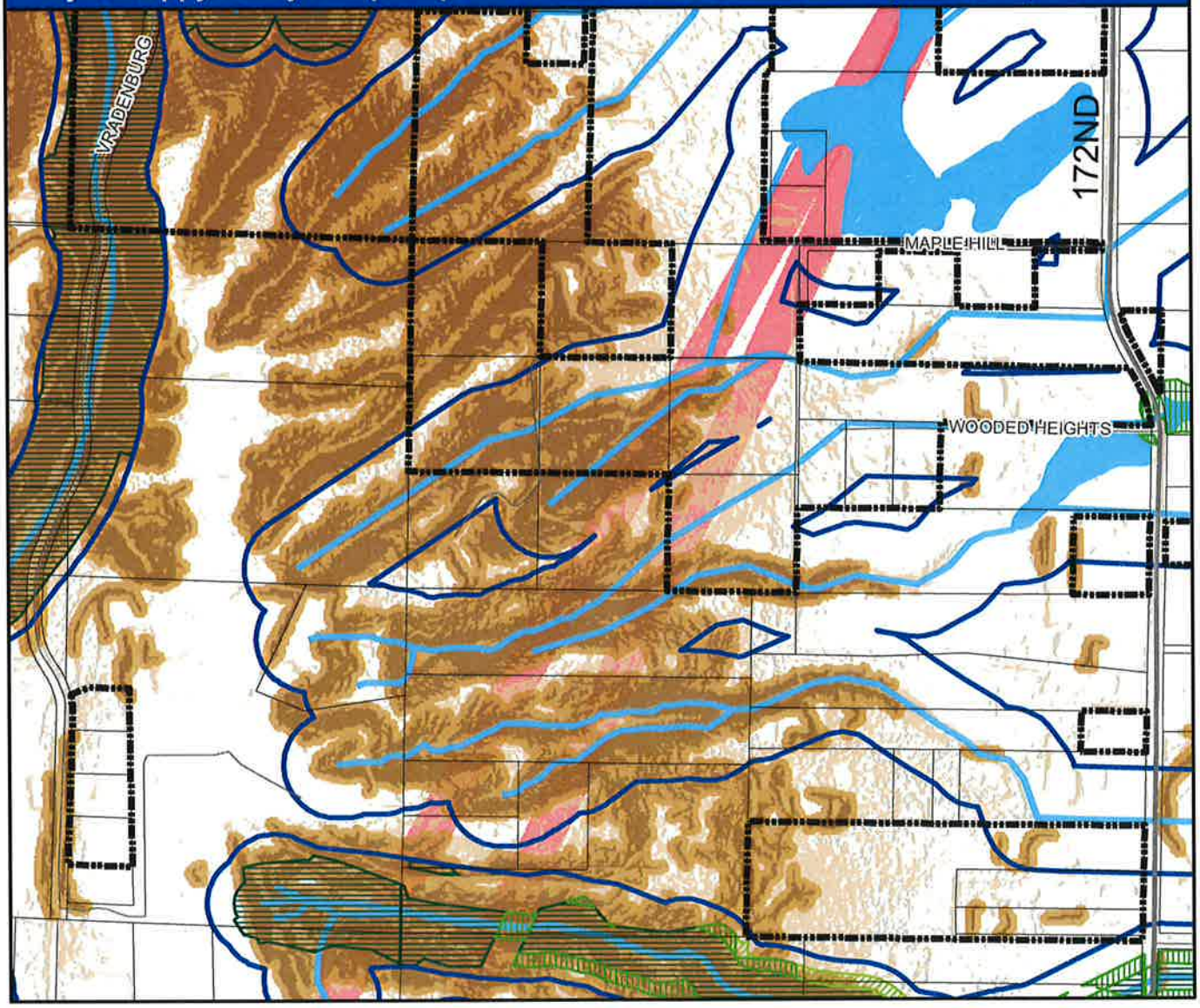
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B6



Open House Review Draft: October 28, 2008

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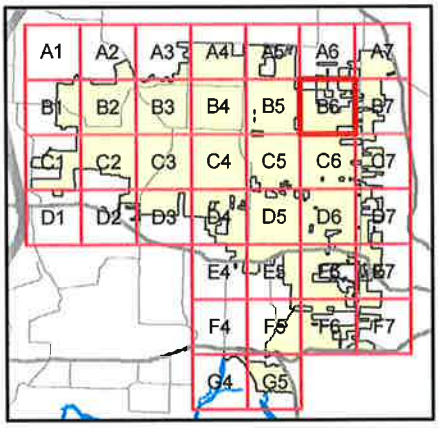

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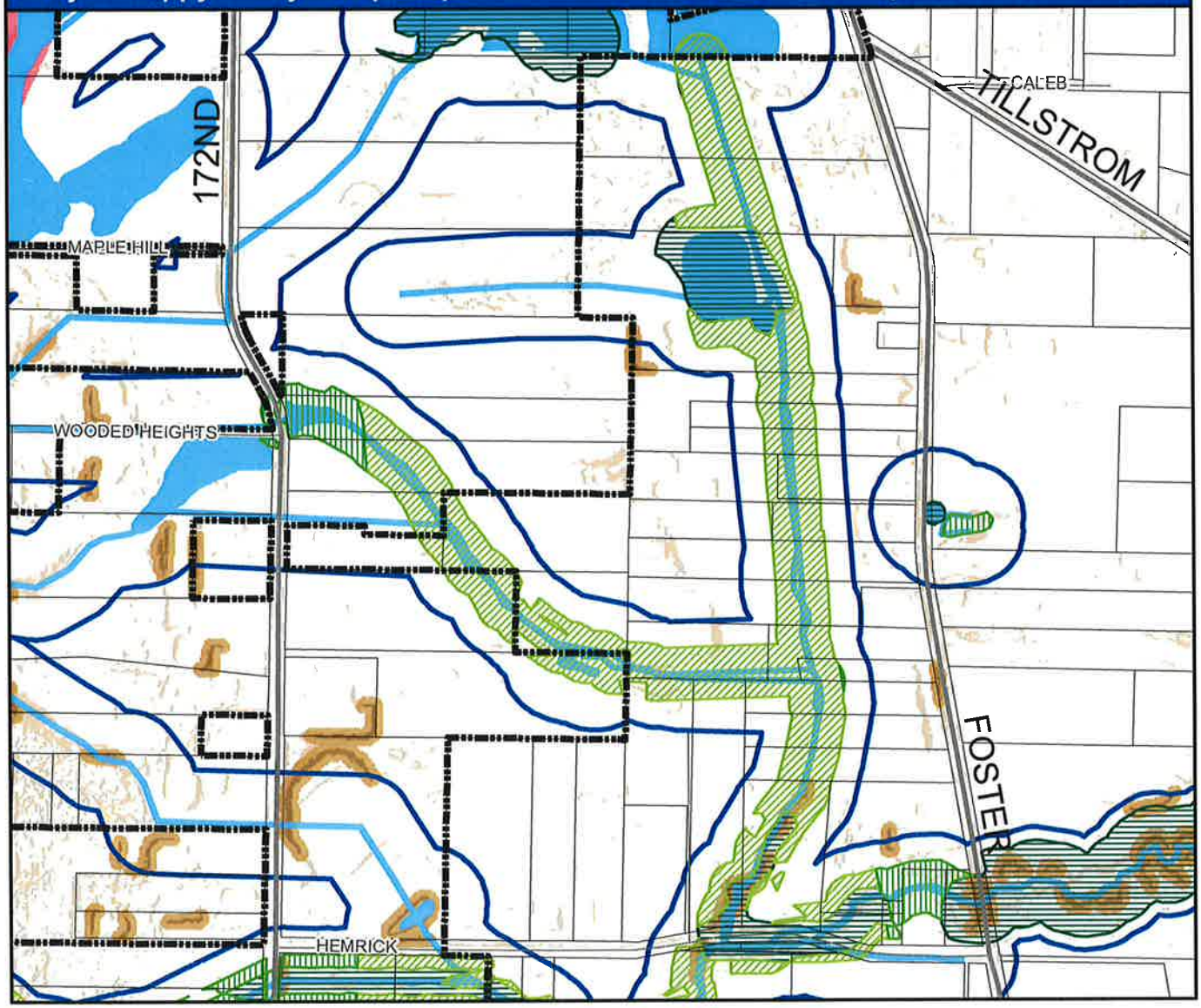
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map B7



Open House Review Draft: October 28, 2008

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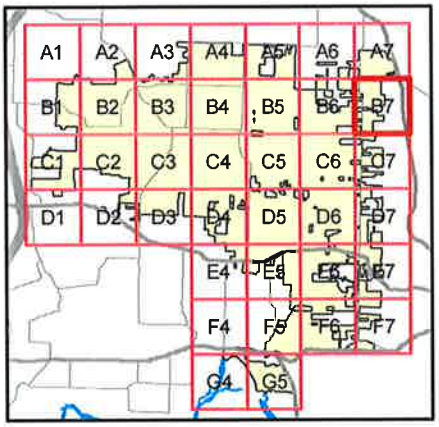

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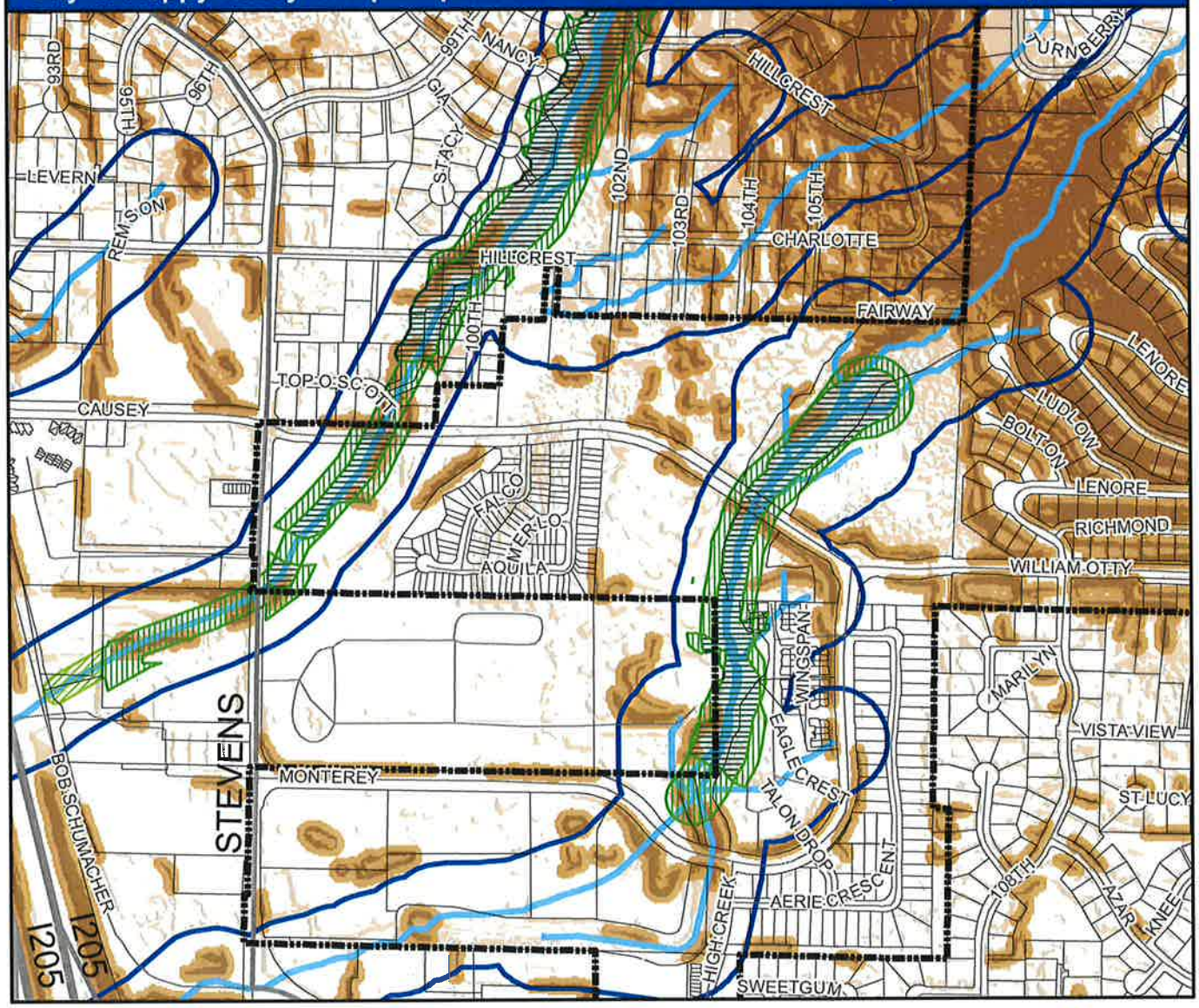
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C1



Open House Review Draft: October 28, 2008

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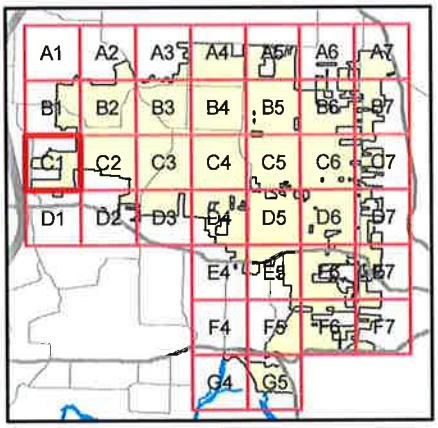

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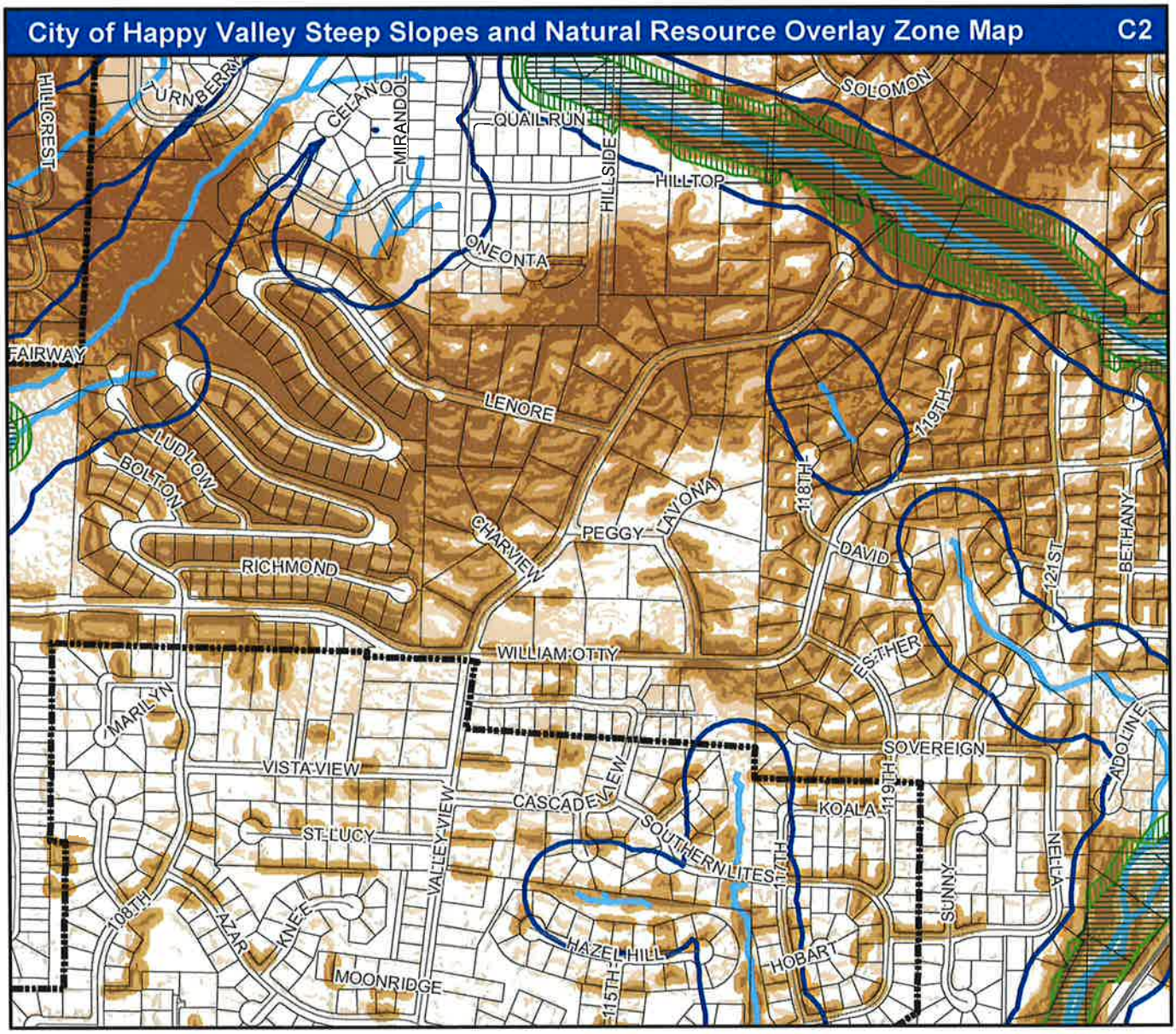
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C2



Open House Review Draft: October 28, 2008

Water Quality Areas
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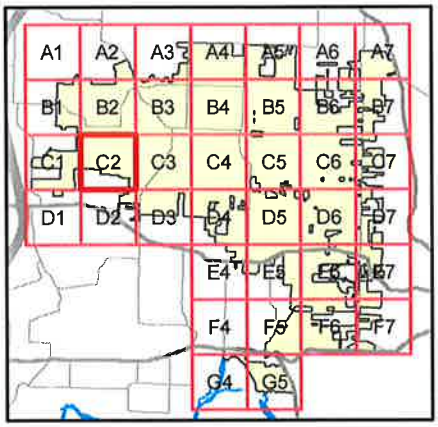

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Plot Date: Nov 06, 2008

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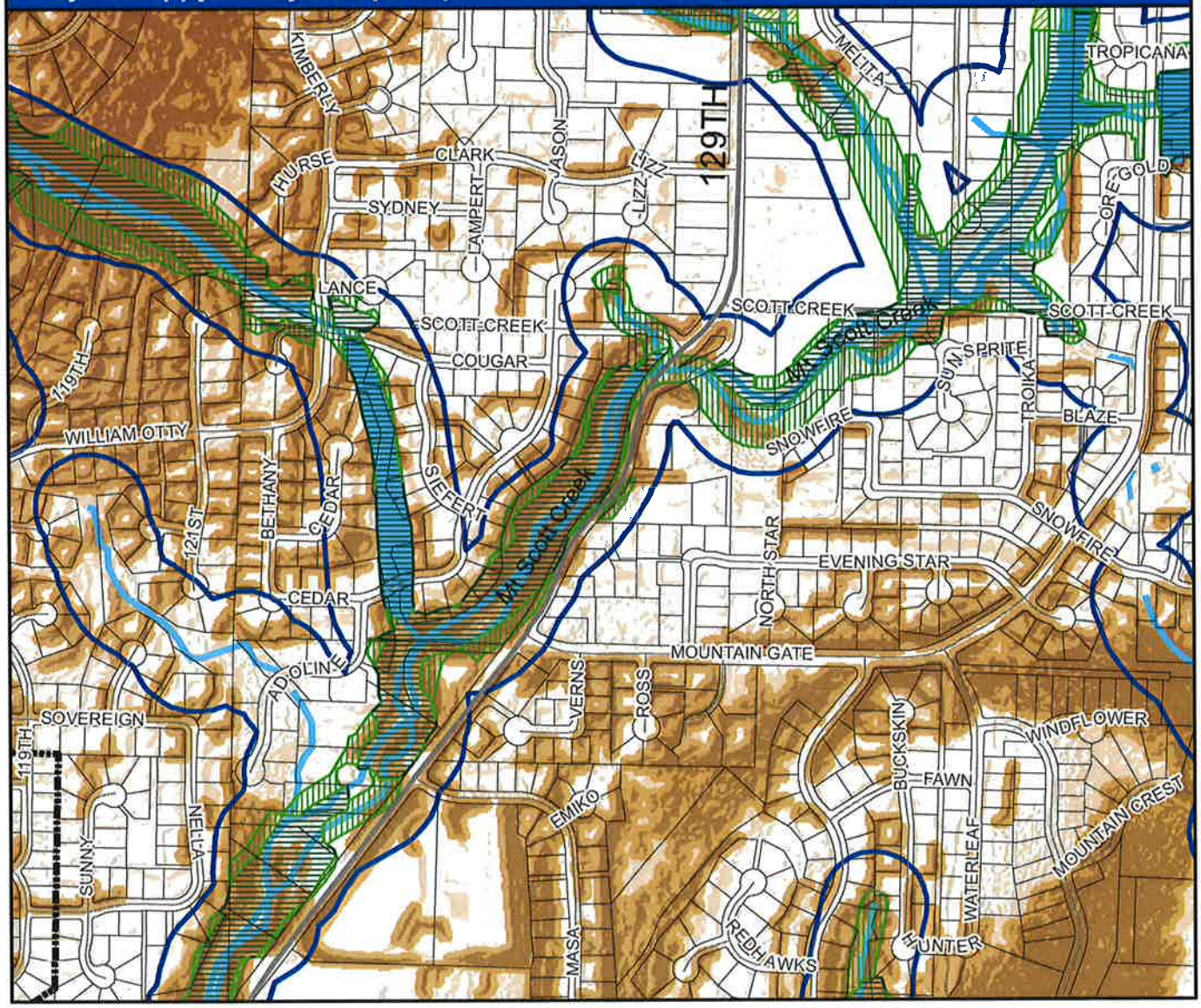
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C3



Open House Review Draft: October 28, 2008

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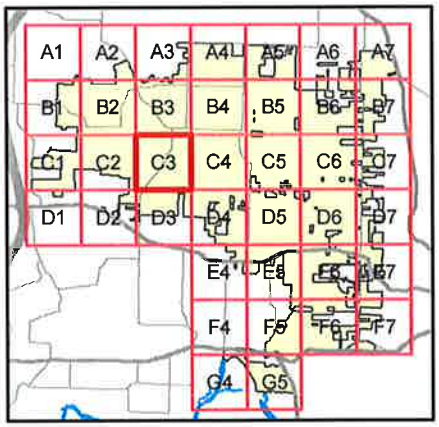

1 inch = 600 feet

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Plot Date: Nov 06, 2008

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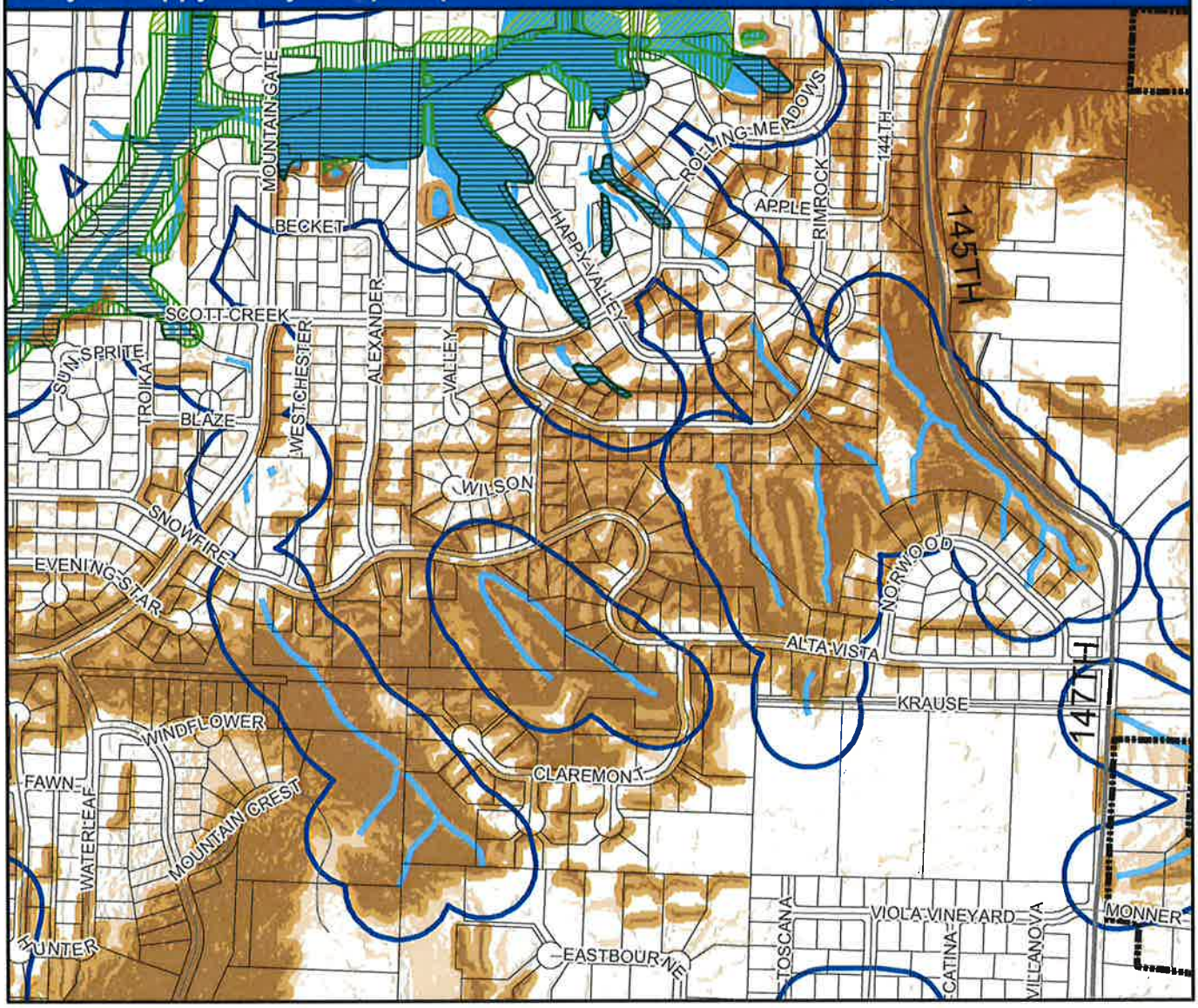
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C4



Open House Review Draft: October 28, 2008

Water Quality Areas

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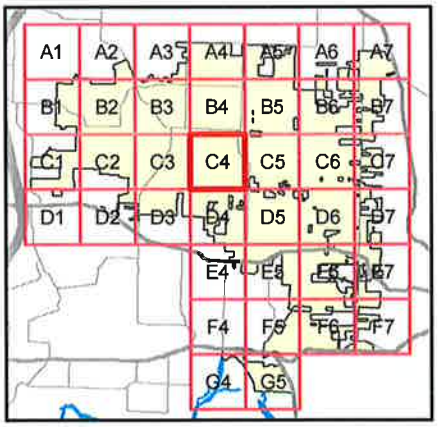

1 inch = 600 feet

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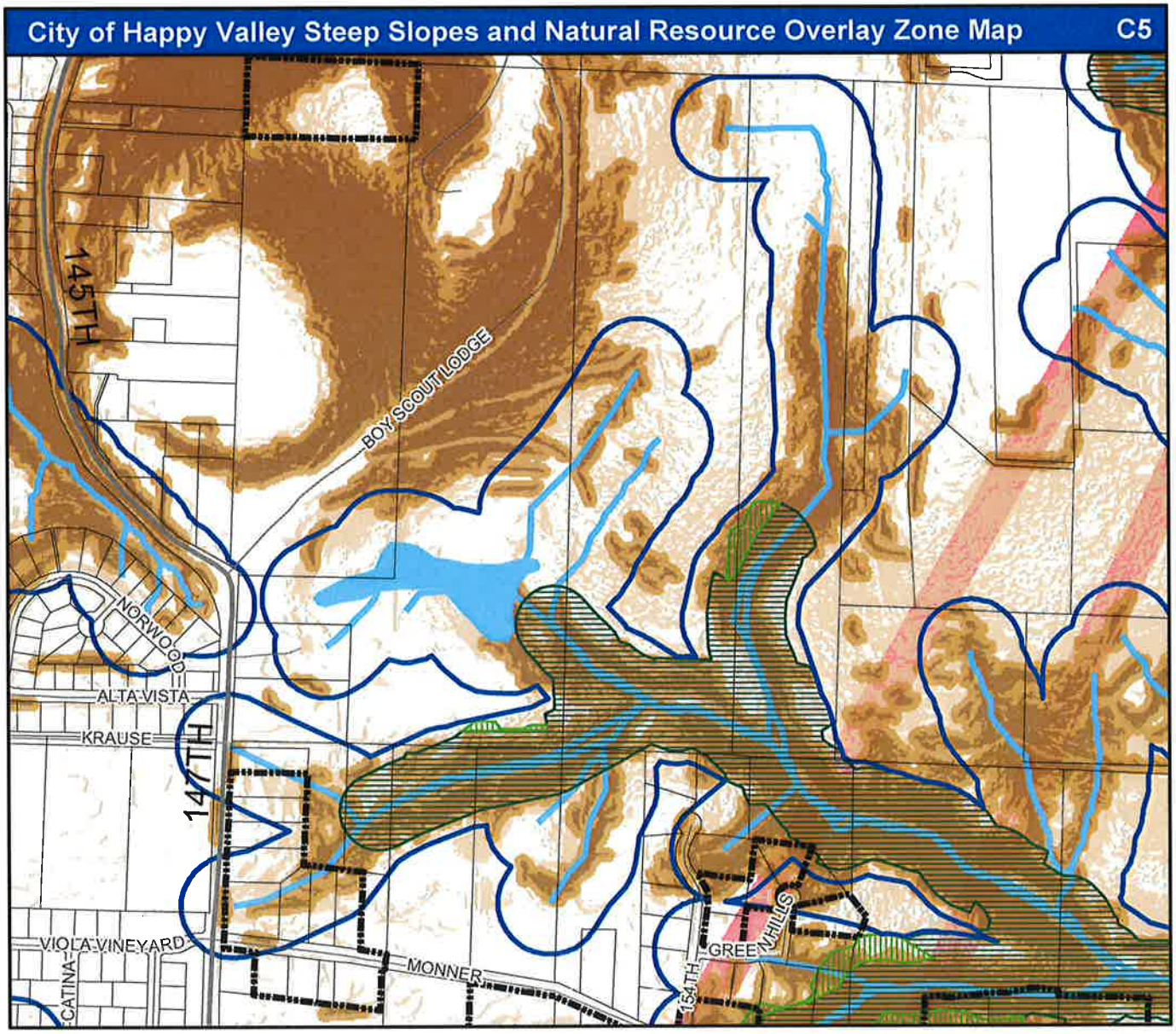
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C5



Open House Review Draft: October 28, 2008

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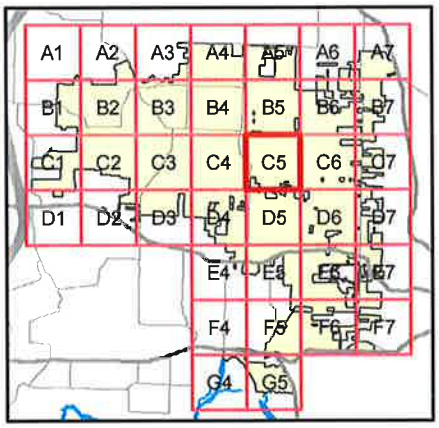

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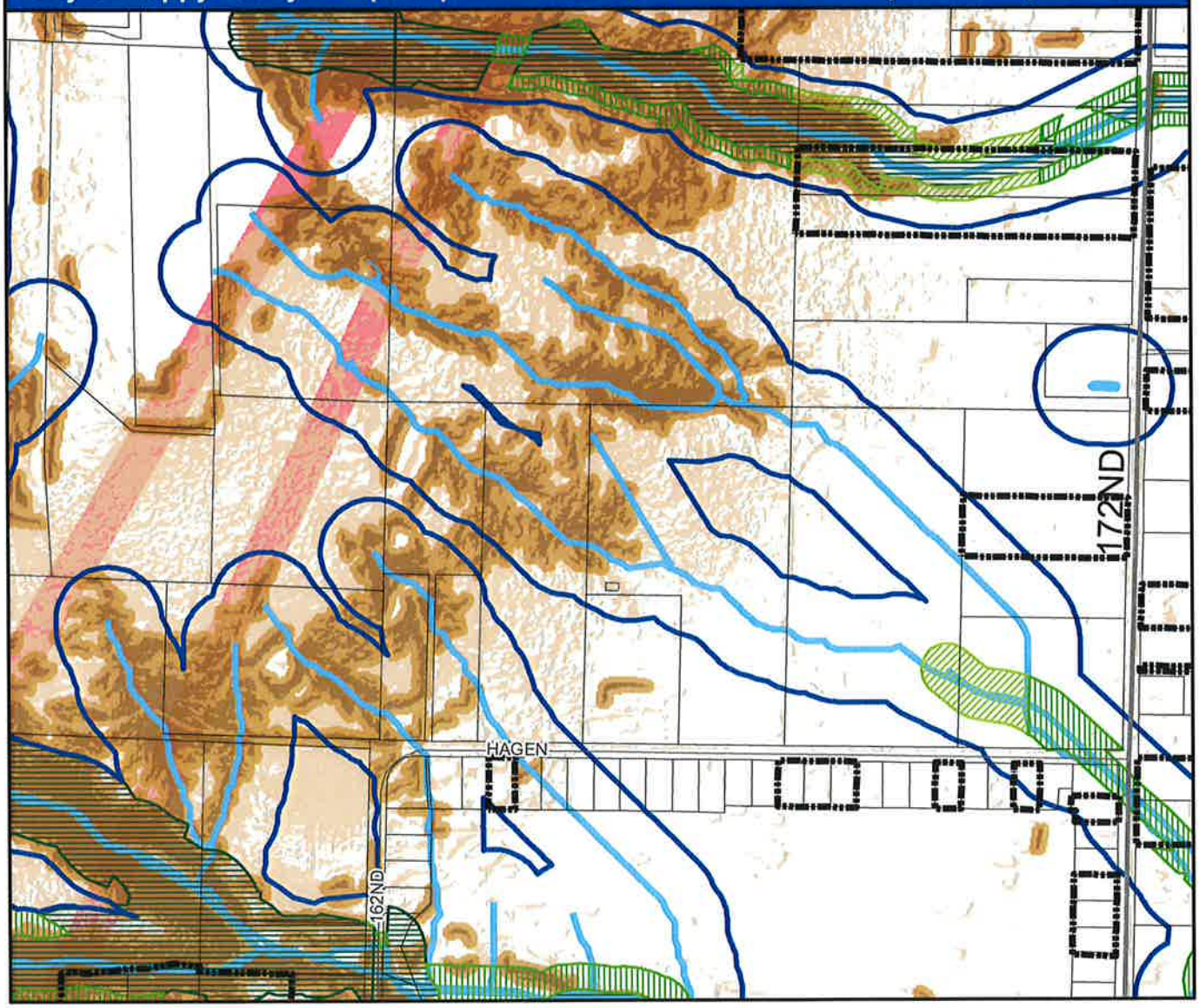
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C6



Open House Review Draft: October 28, 2008

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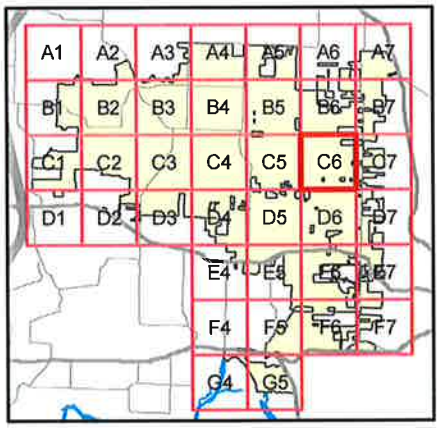

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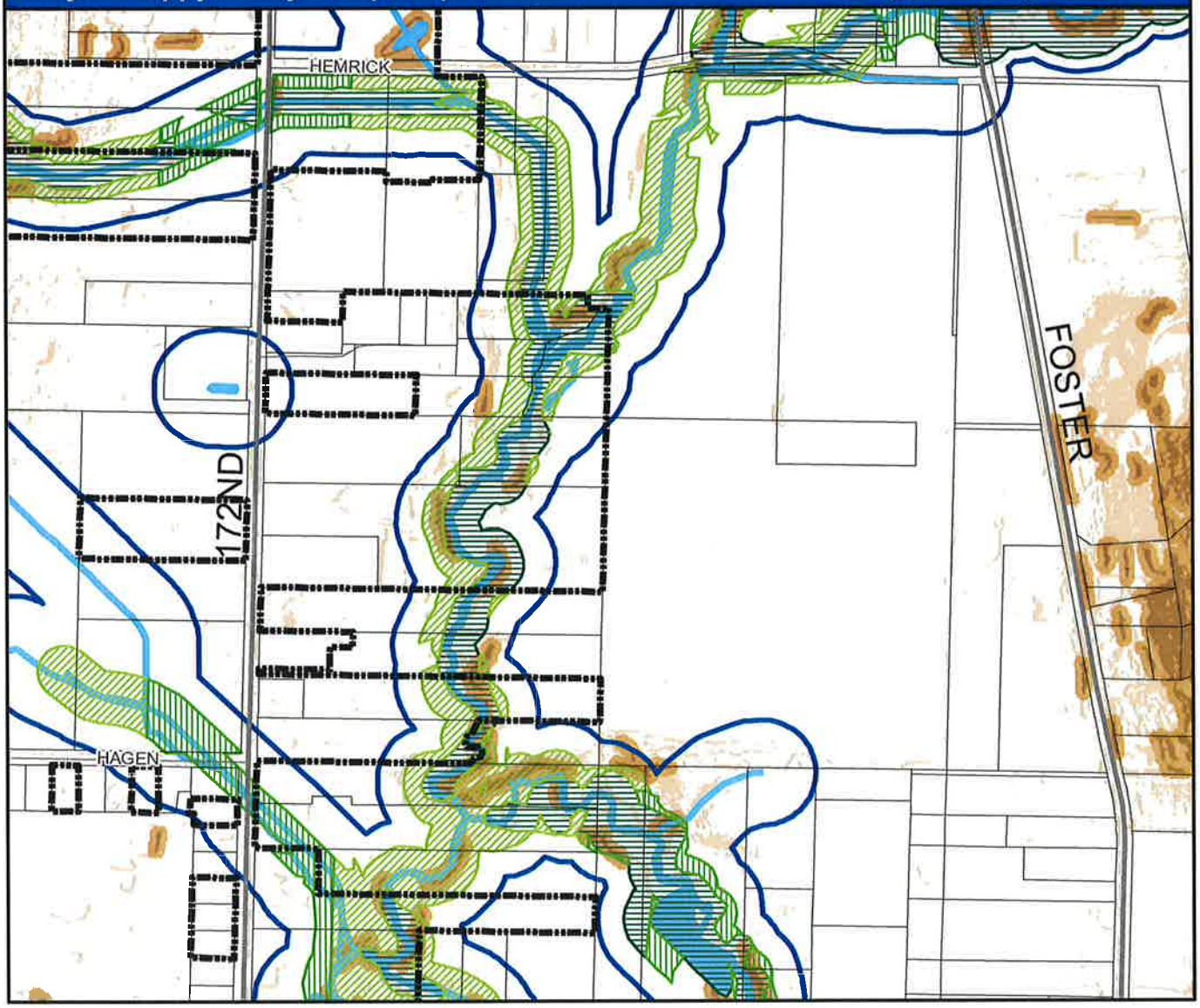
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map C7



Open House Review Draft: October 28, 2008

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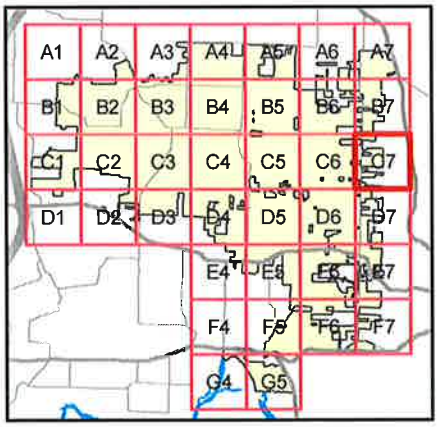

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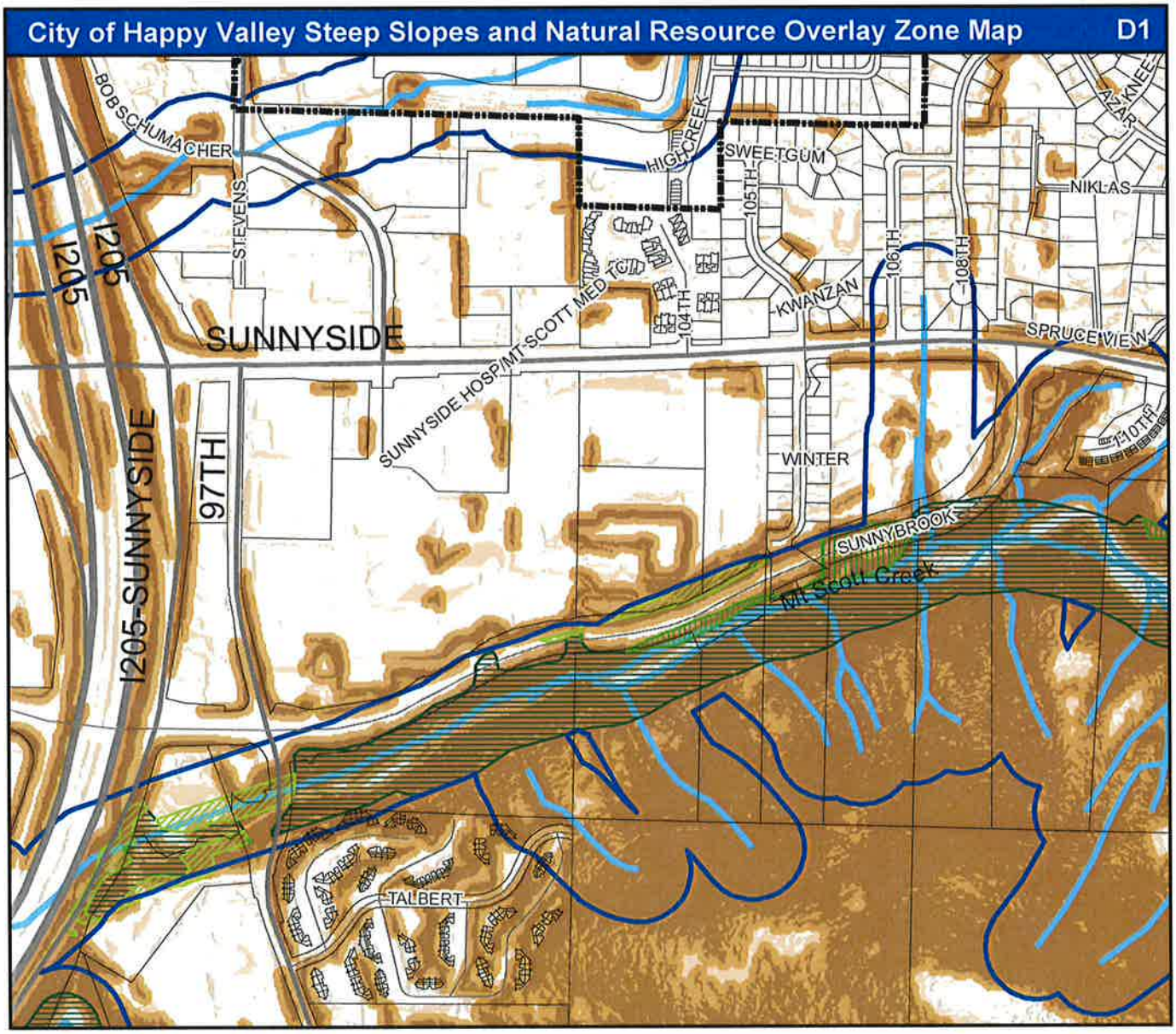
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D1



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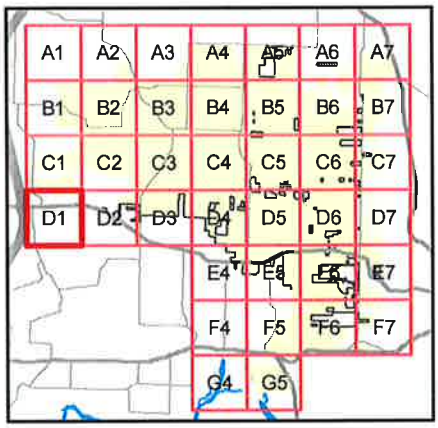

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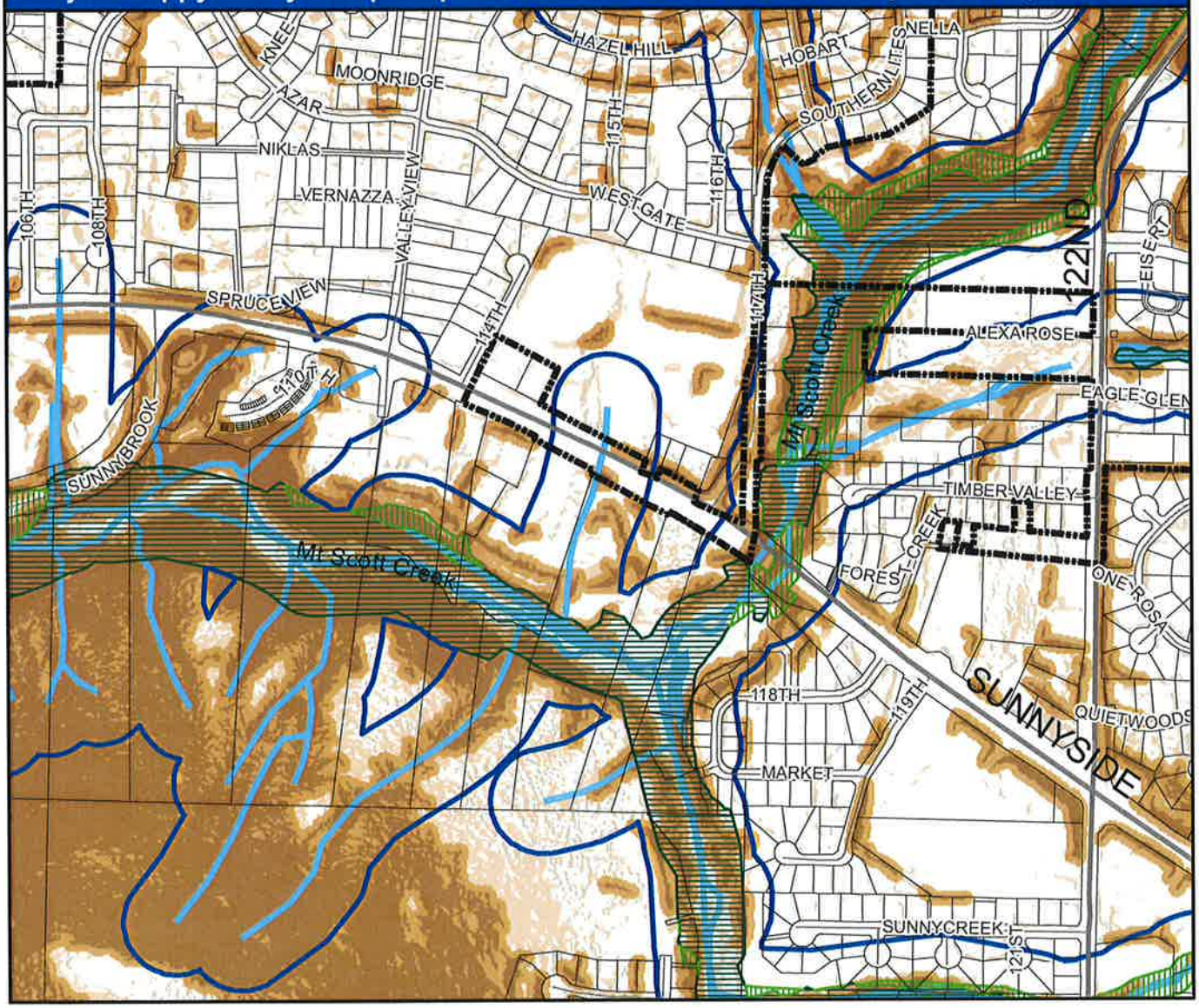
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D2



Open House Review Draft: October 28, 2008

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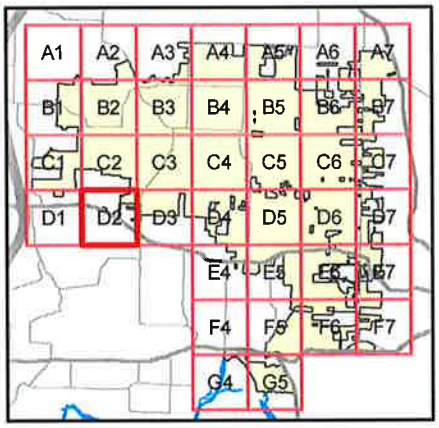

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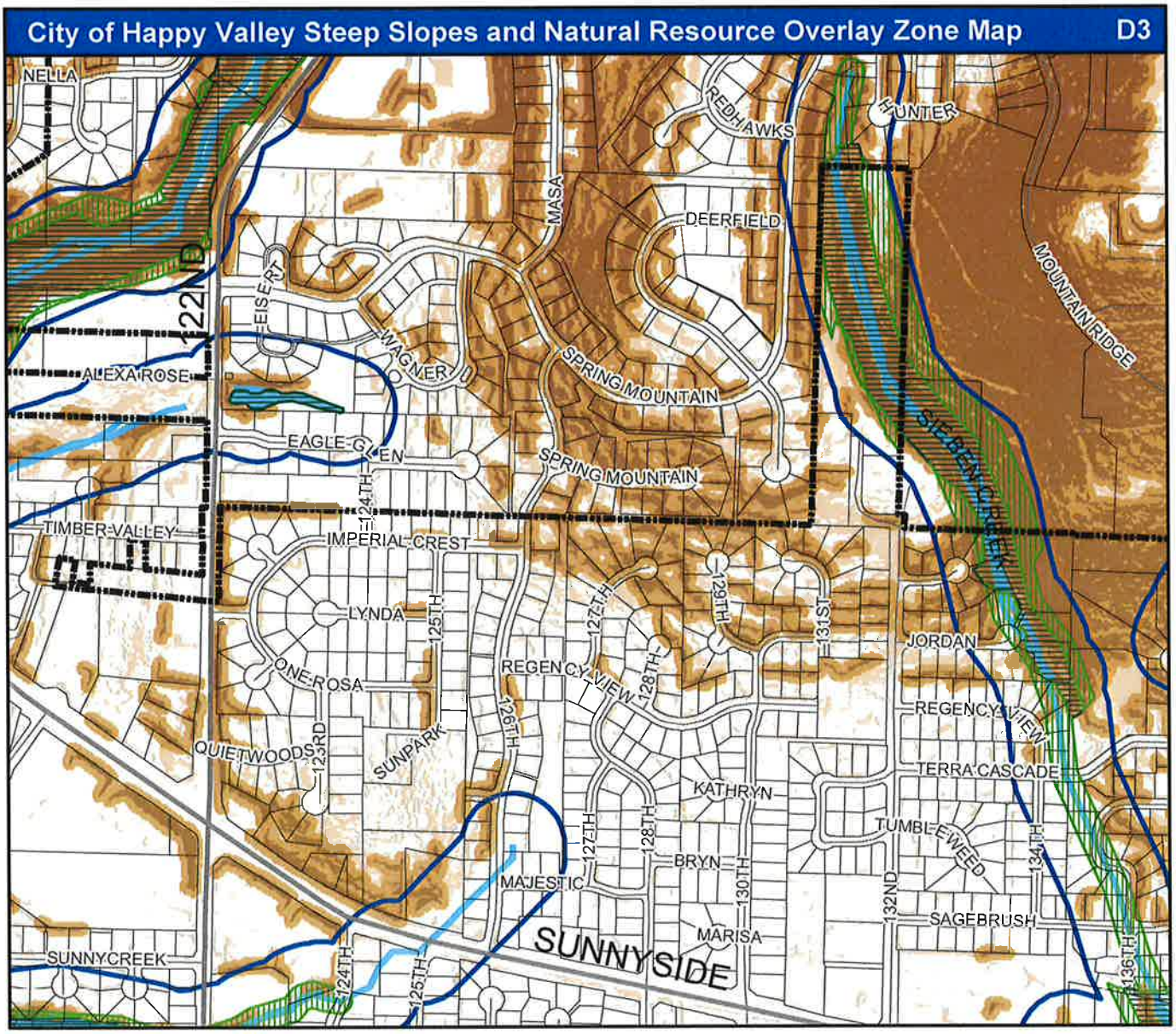
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D3



Open House Review Draft: October 28, 2008

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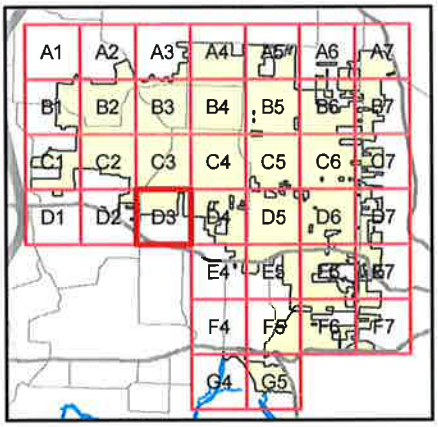

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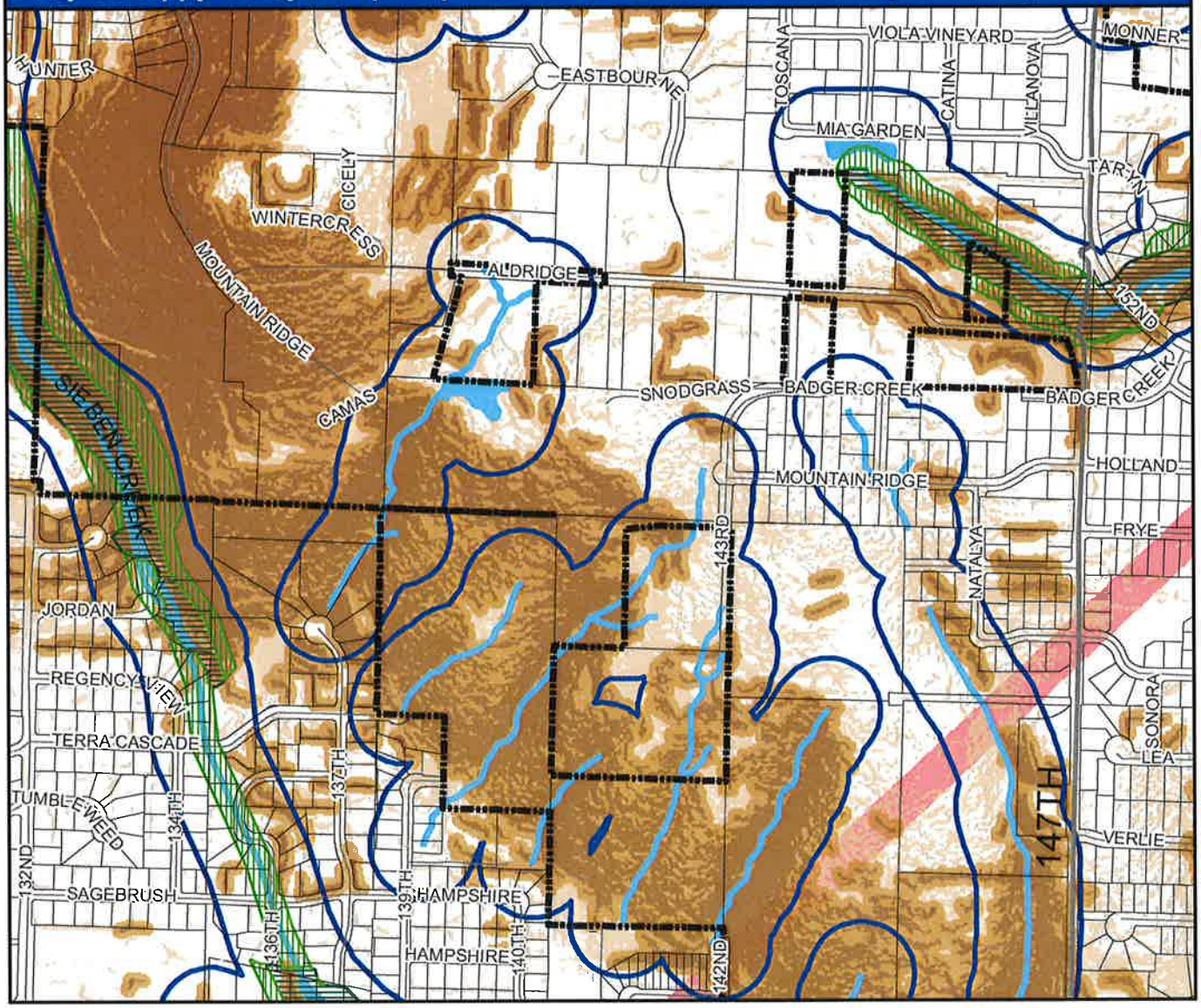
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D4



Open House Review Draft: October 28, 2008

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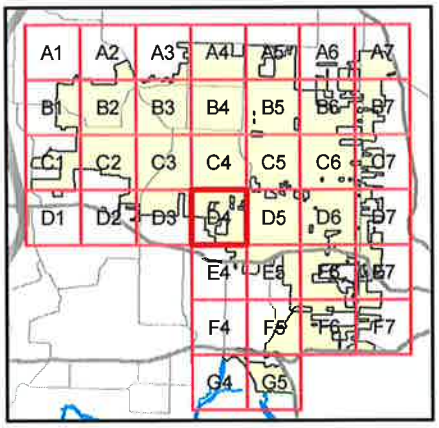

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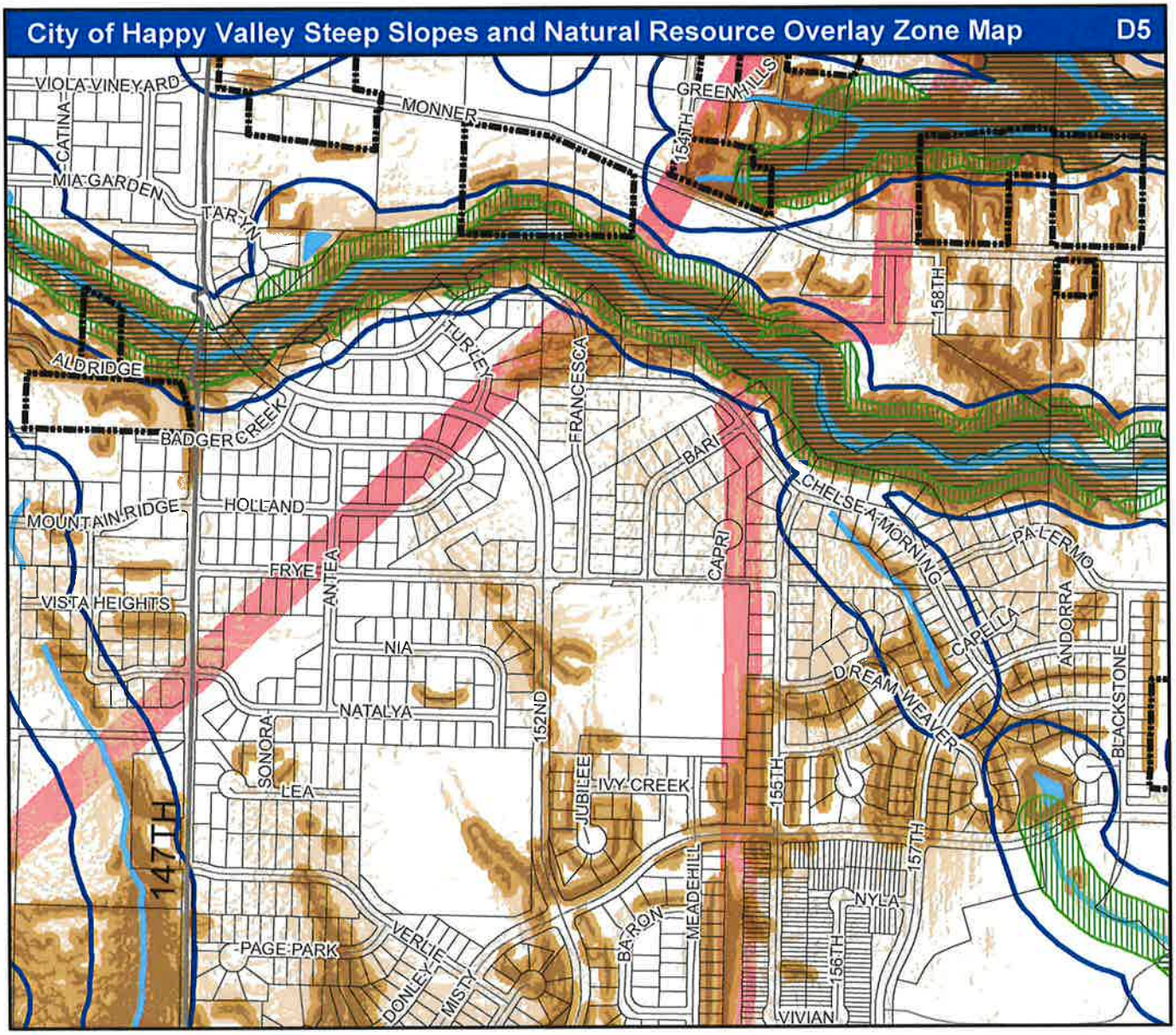
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D5



Open House Review Draft: October 28, 2008

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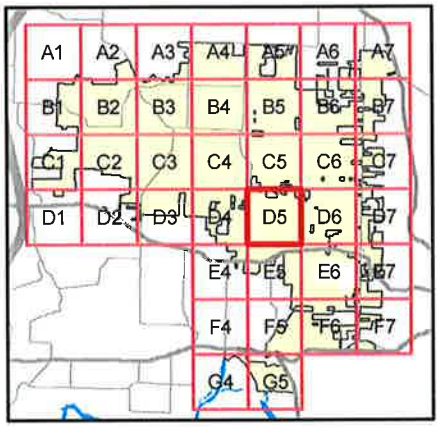

1 inch = 600 feet

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Plot Date: Nov 06, 2008

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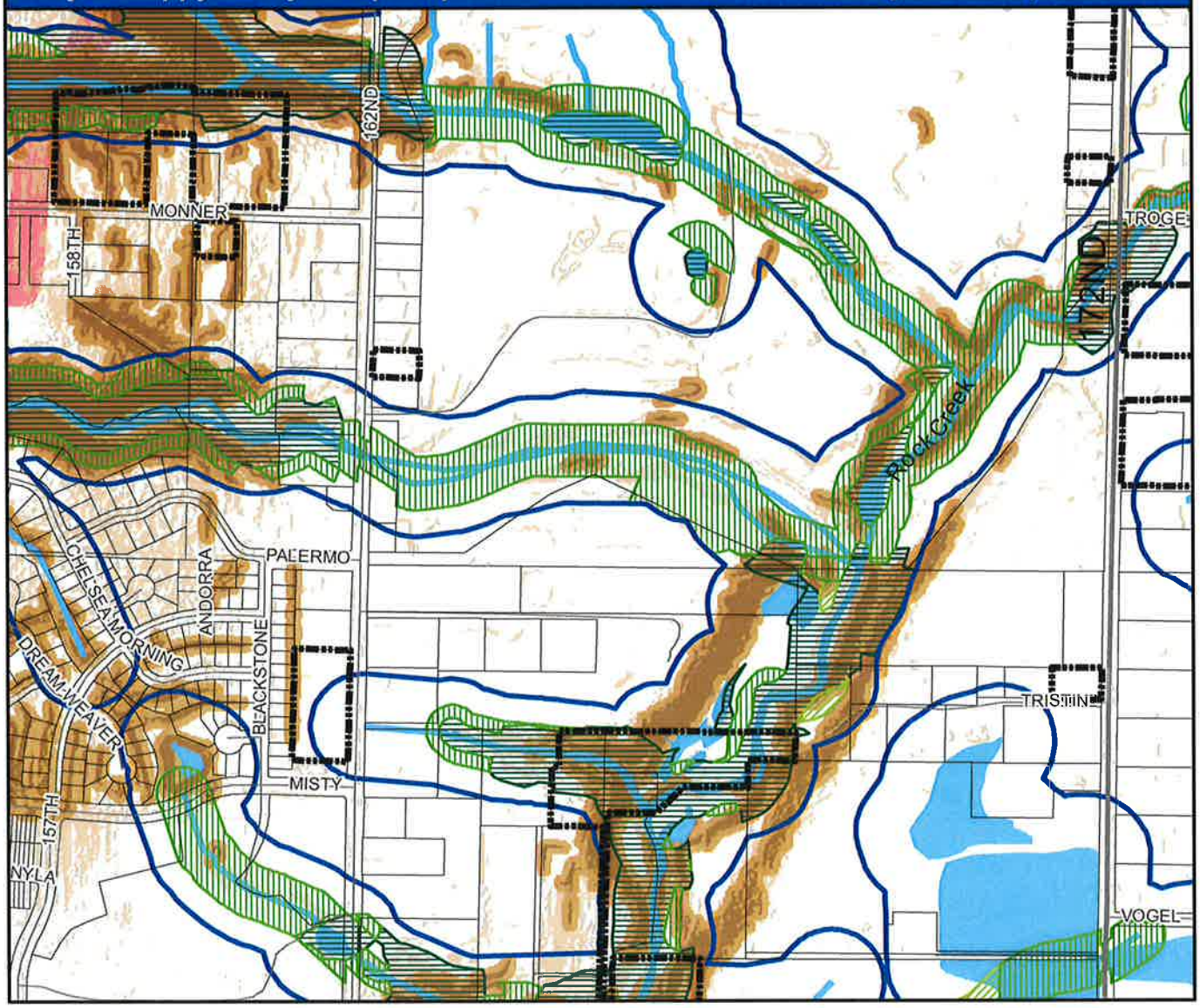
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D6



Open House Review Draft: October 28, 2008

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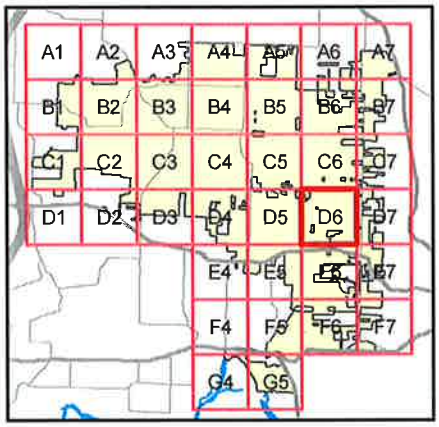

1 inch = 600 feet

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Plot Date: Nov 06, 2008

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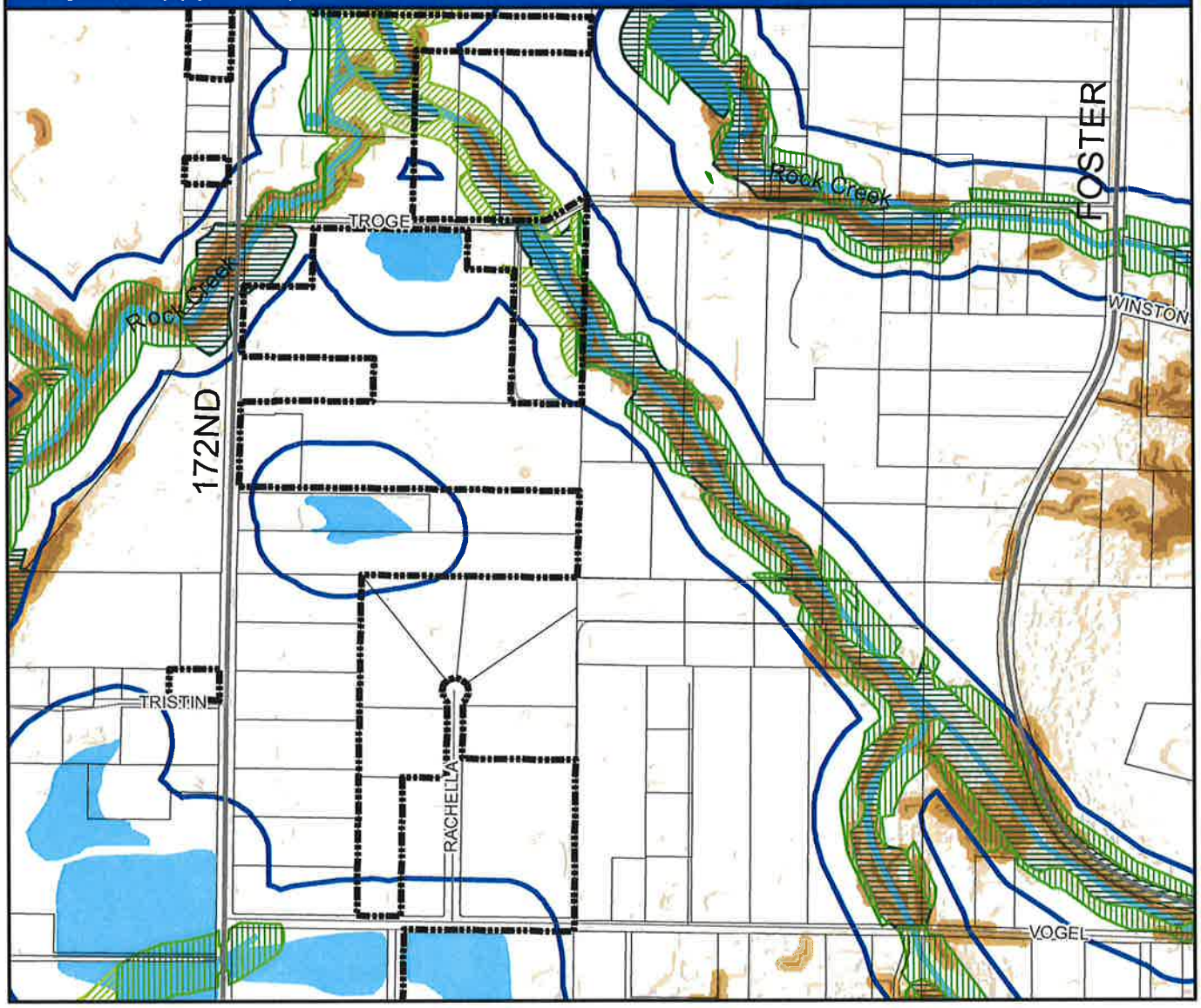
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map D7



Open House Review Draft: October 28, 2008

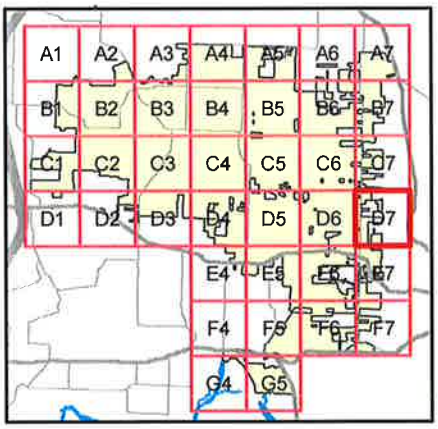
Water Quality Areas
- Protected Water Features
- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas
- High Value
- Moderate Value
- Low Value

Steep Slopes
- Conservation Slope Area
- 25 Foot Buffer from Conservation Slope Area
- Transition Slope Area
- Major Utility Corridor

Boundaries
- Happy Valley City Limits
- Urban Growth Boundary
- Parcel Boundaries

Roads
- Freeways
- Major Streets
- Local Roads



1 inch = 600 feet

0 250 500 1,000 Feet

Plot Date: Nov 06, 2008

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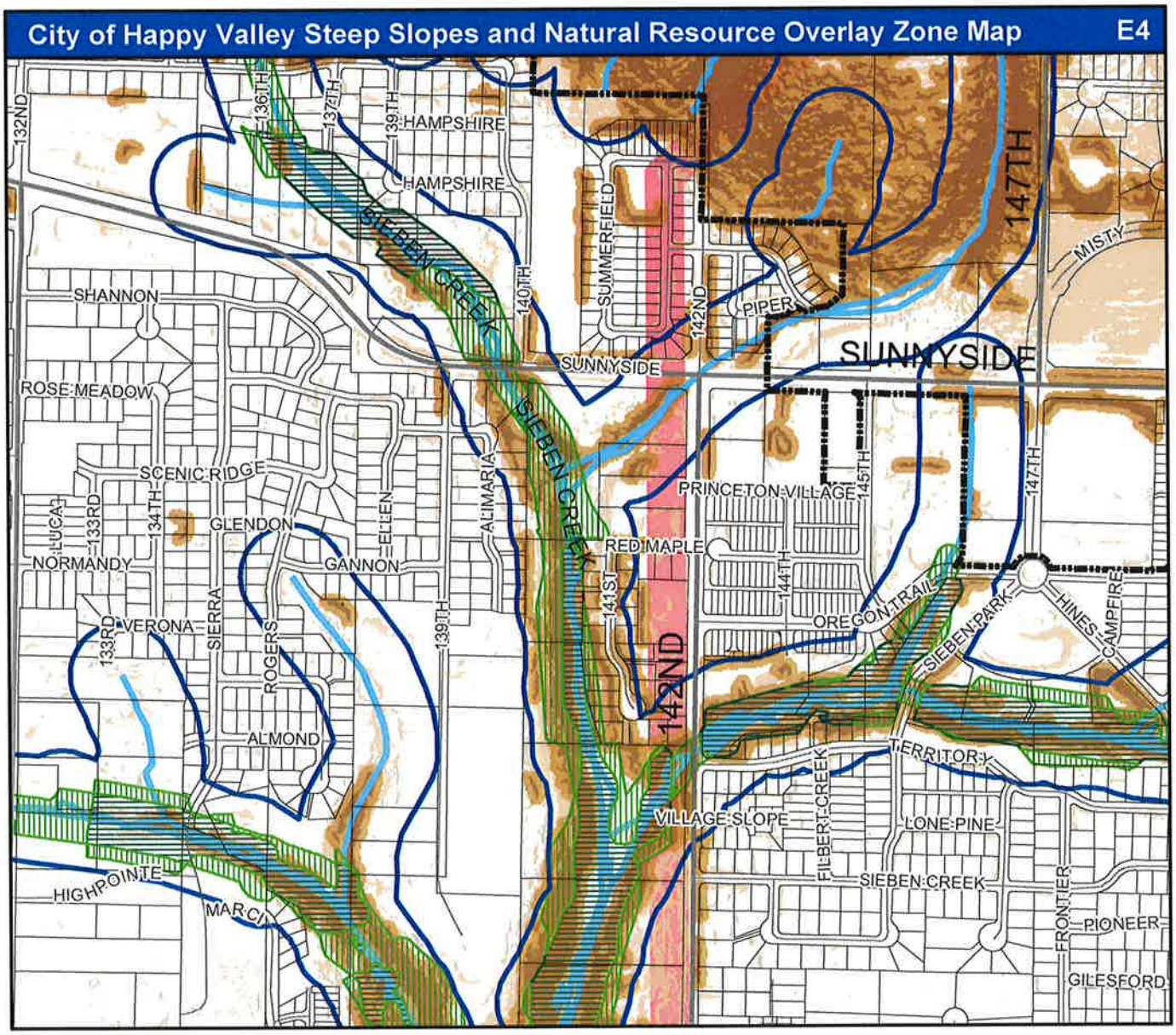
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map E4



Open House Review Draft: October 28, 2008

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Roads
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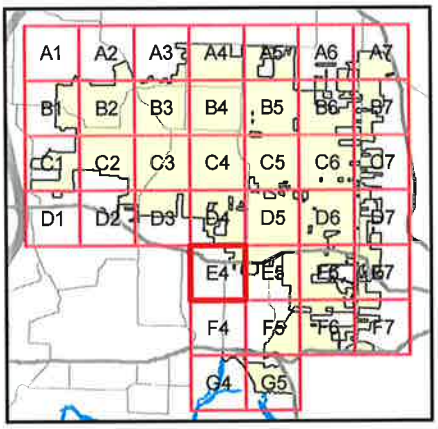

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Plot Date: Nov 06, 2008

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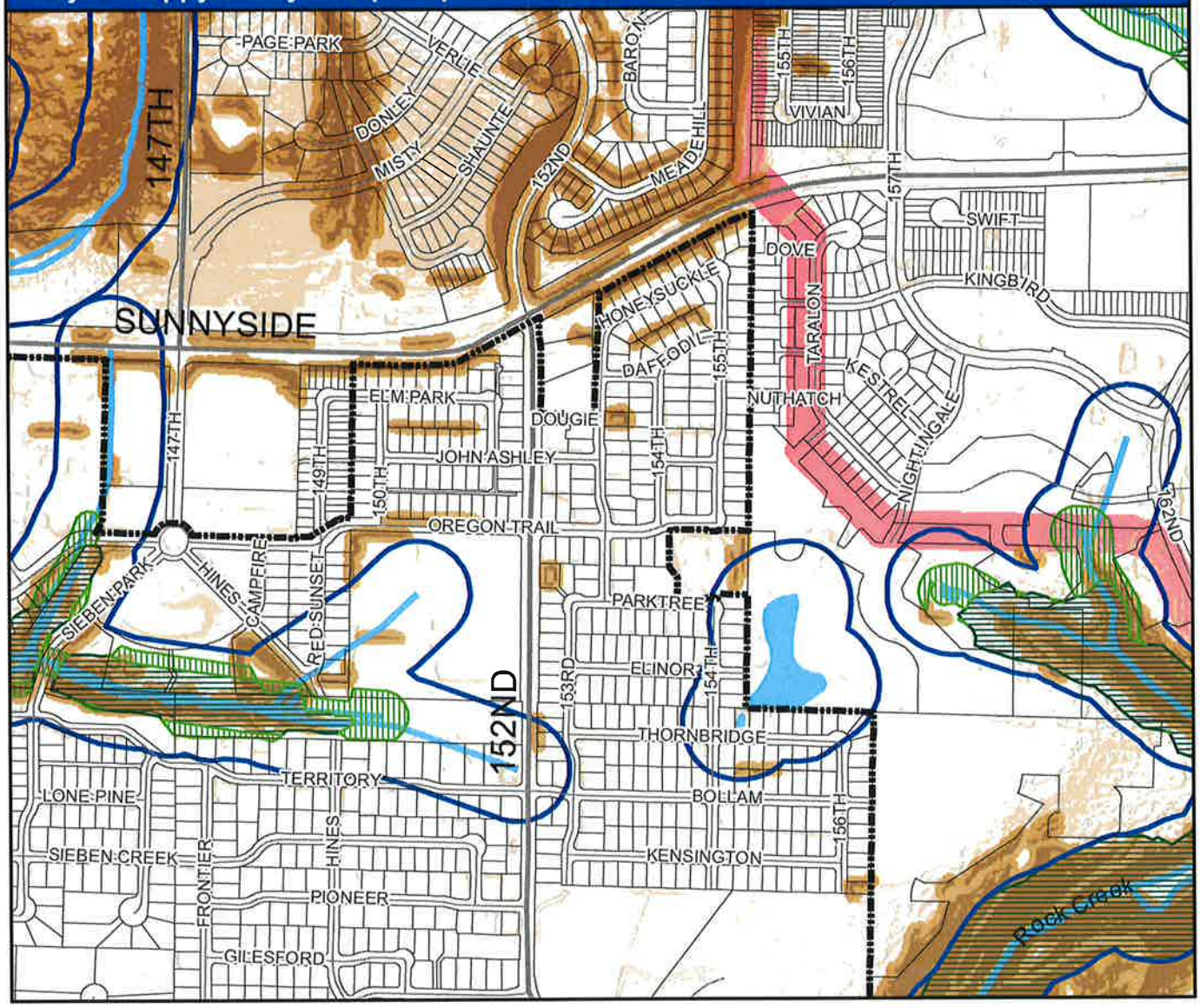
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map E5



Open House Review Draft: October 28, 2008

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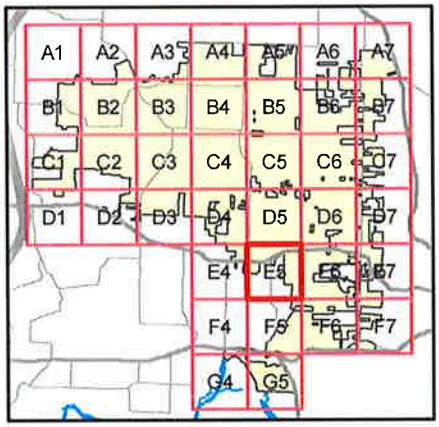
- Local Roads



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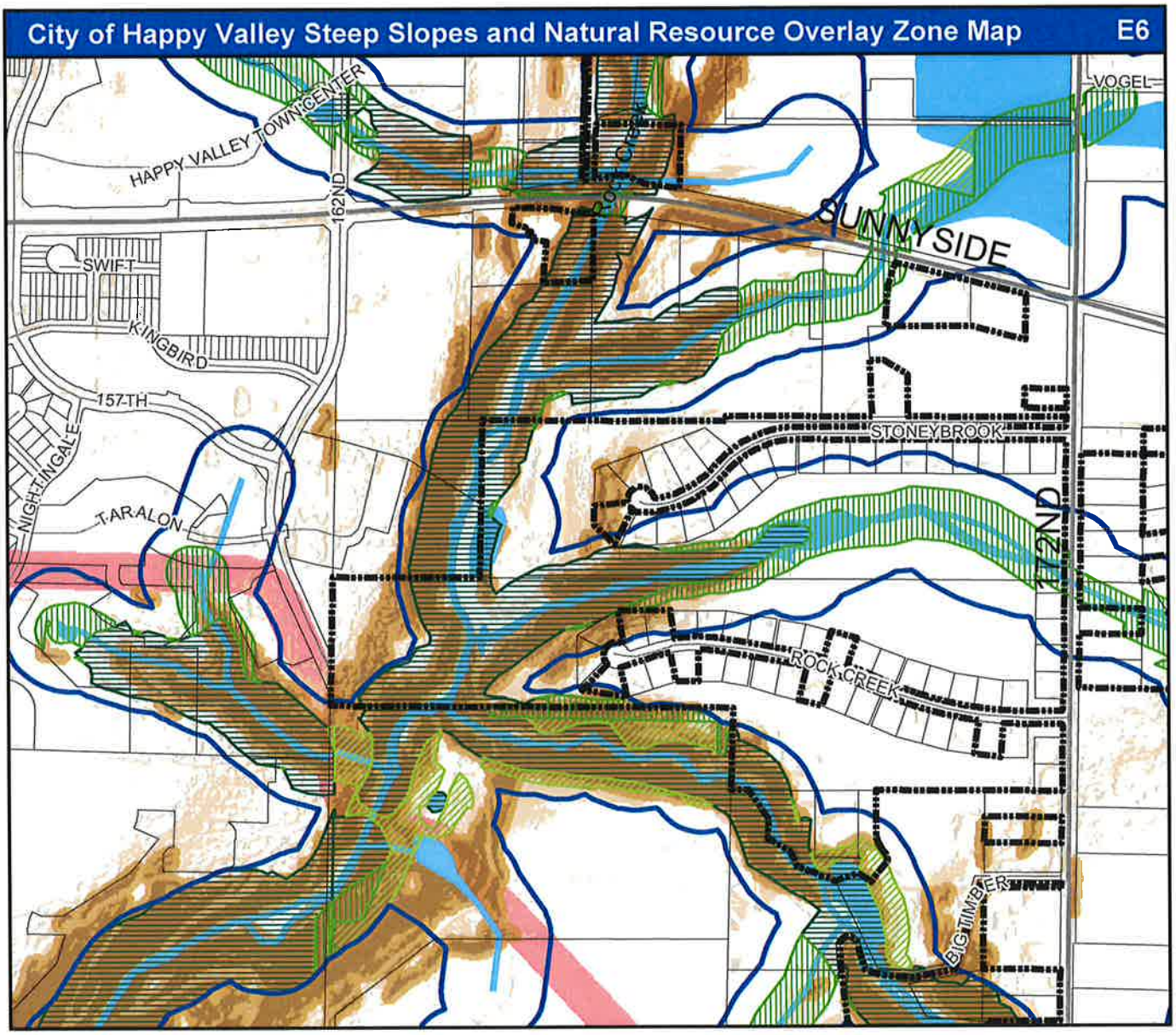
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map E6



Open House Review Draft: October 28, 2008

Water Quality Areas

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- Maximum Extent of Vegetated Corridors

Habitat Conservation Areas

- High Value
- Moderate Value
- Low Value

Steep Slopes

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- Major Utility Corridor

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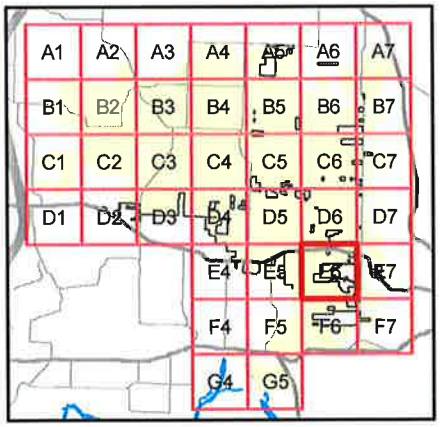
- Parcel Boundaries

Roads

- Freeways
- Major Streets
- Local Roads



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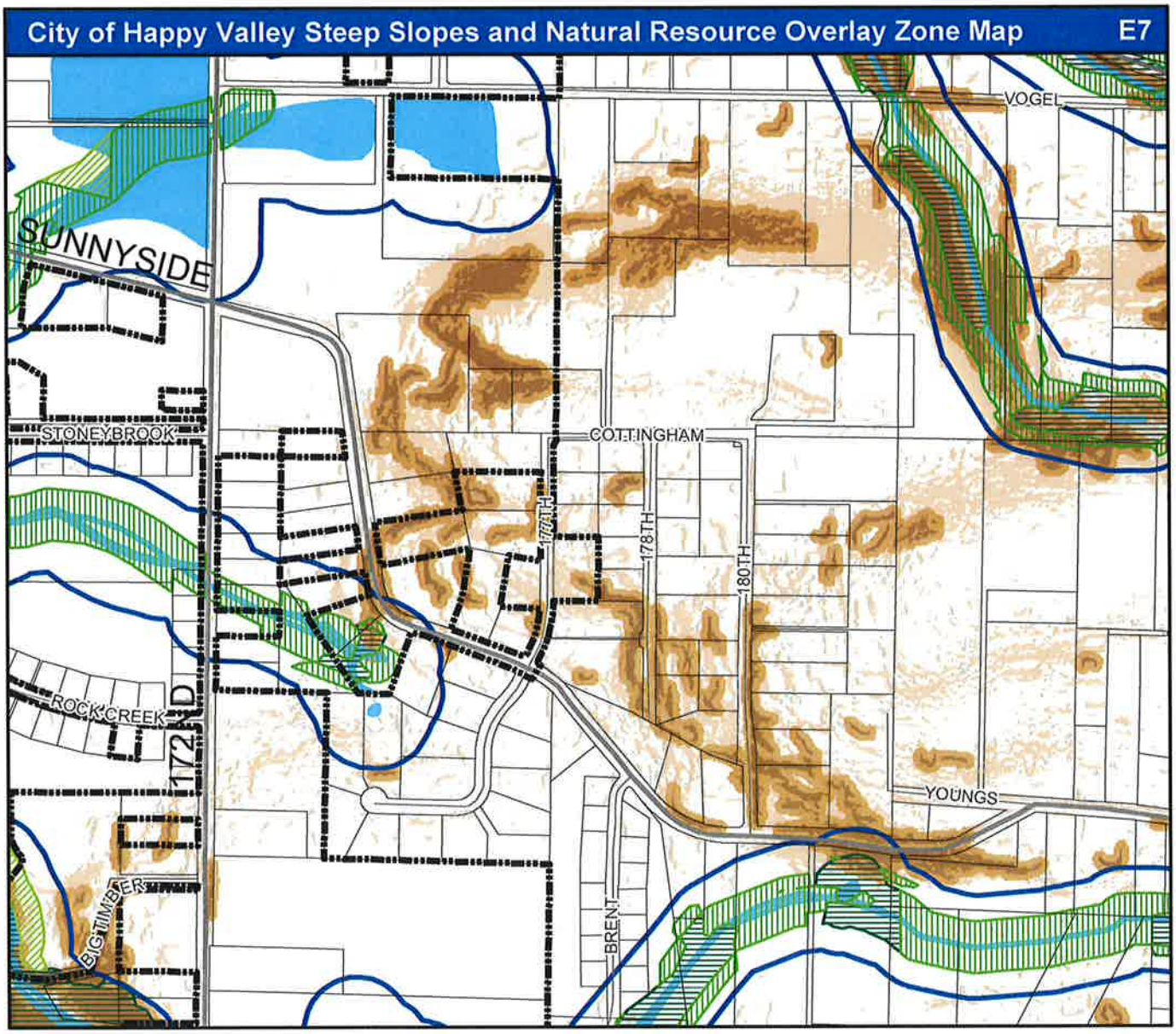
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map E7



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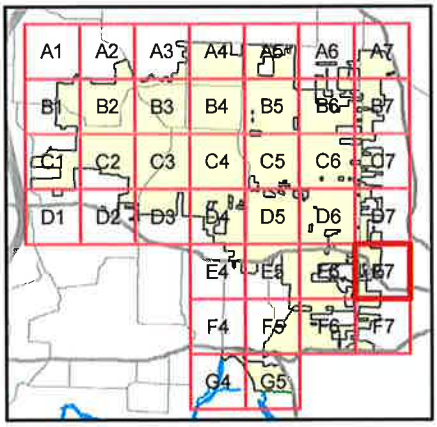

1 inch = 600 feet

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Plot Date: Nov 06, 2008

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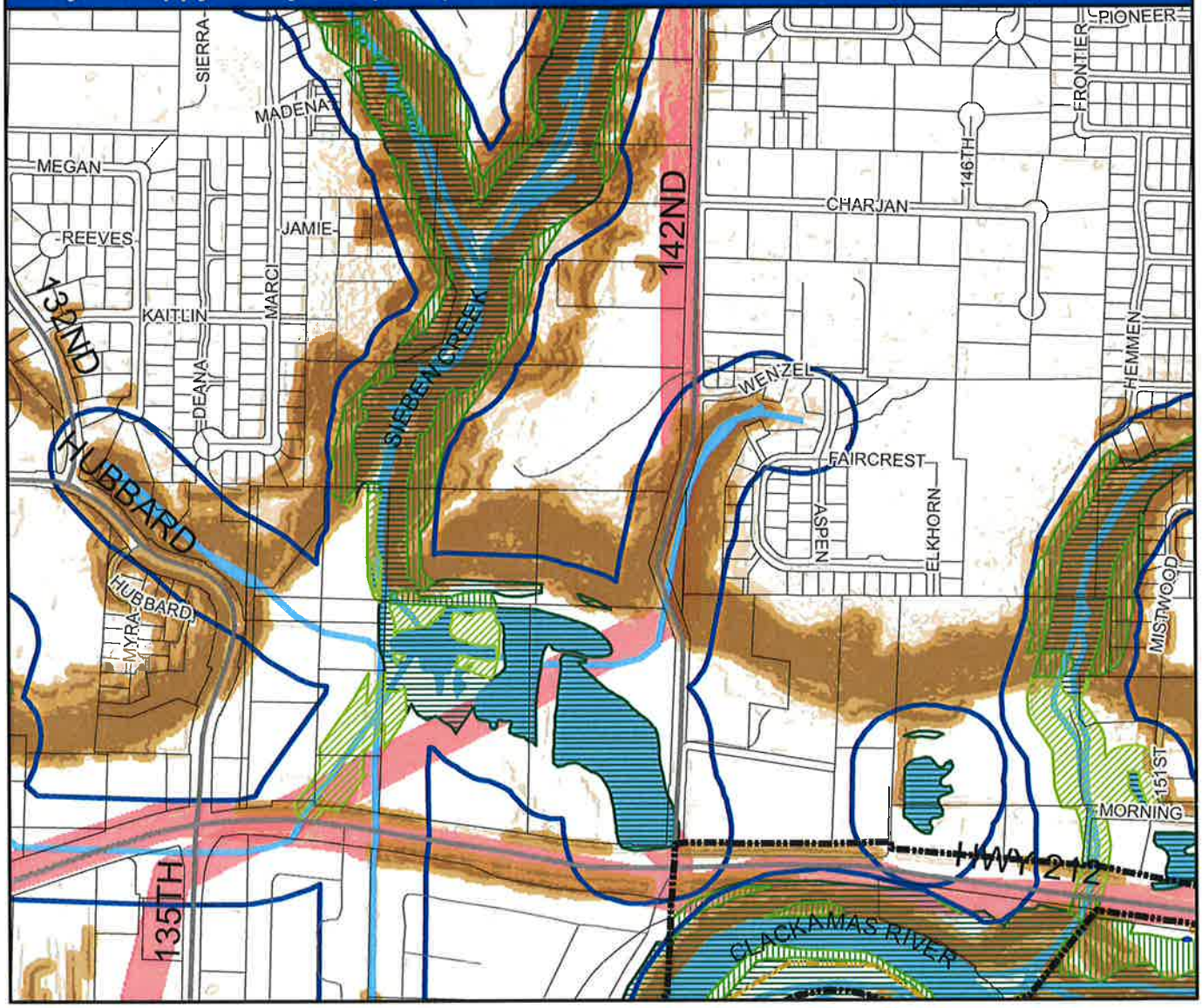
City of Happy Valley Steep Slopes and Natural Resource Overlay Zone Map F4



Open House Review Draft: October 28, 2008

Water Quality Areas
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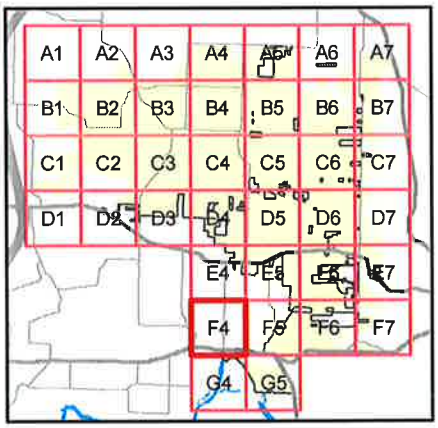

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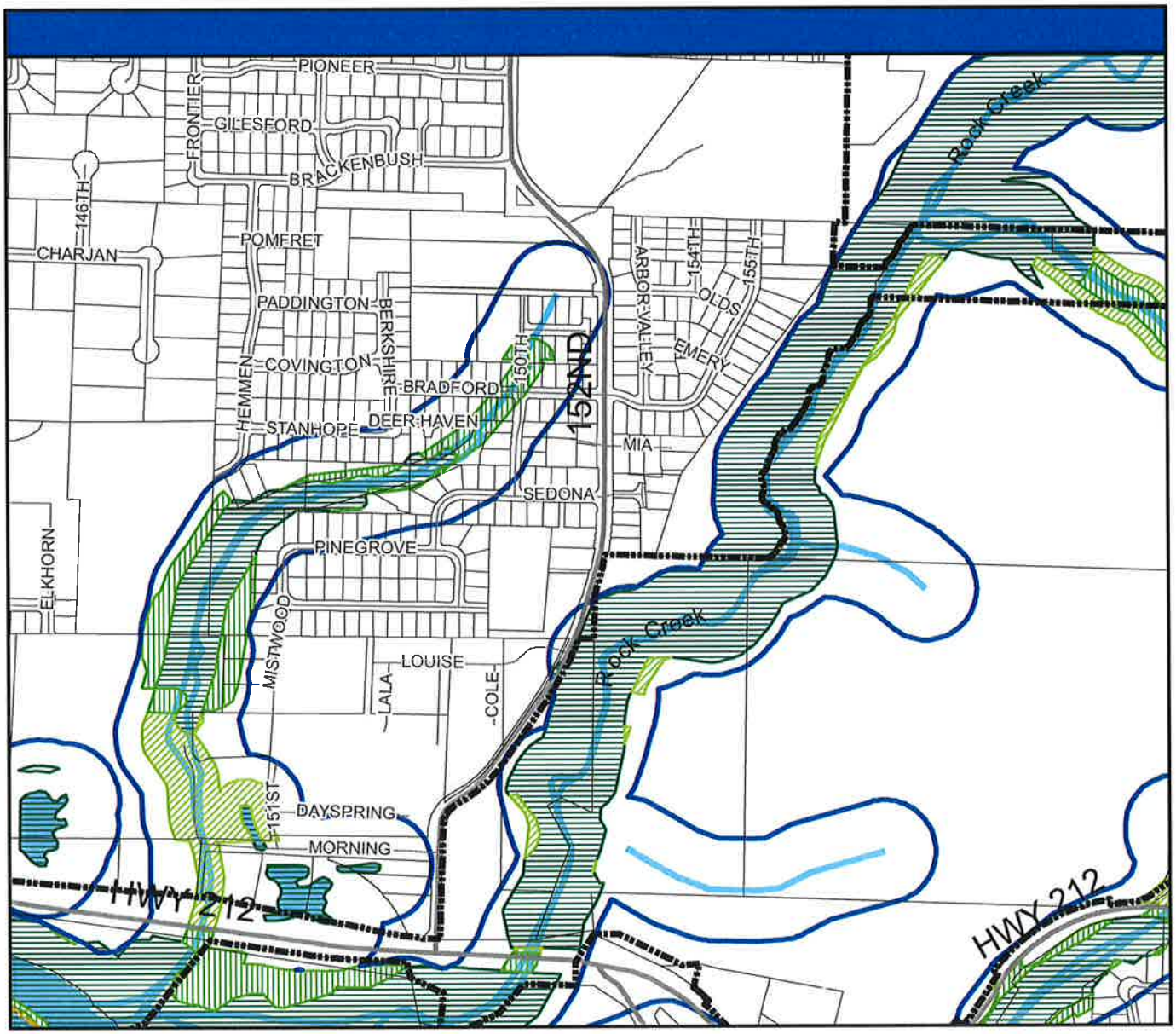
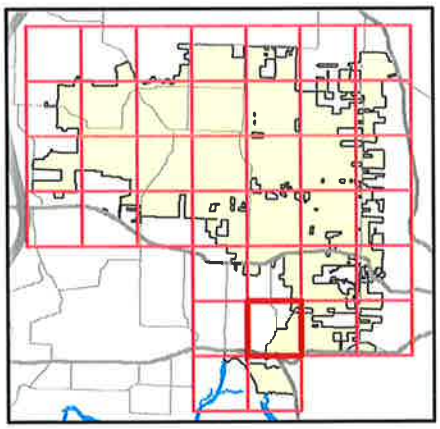
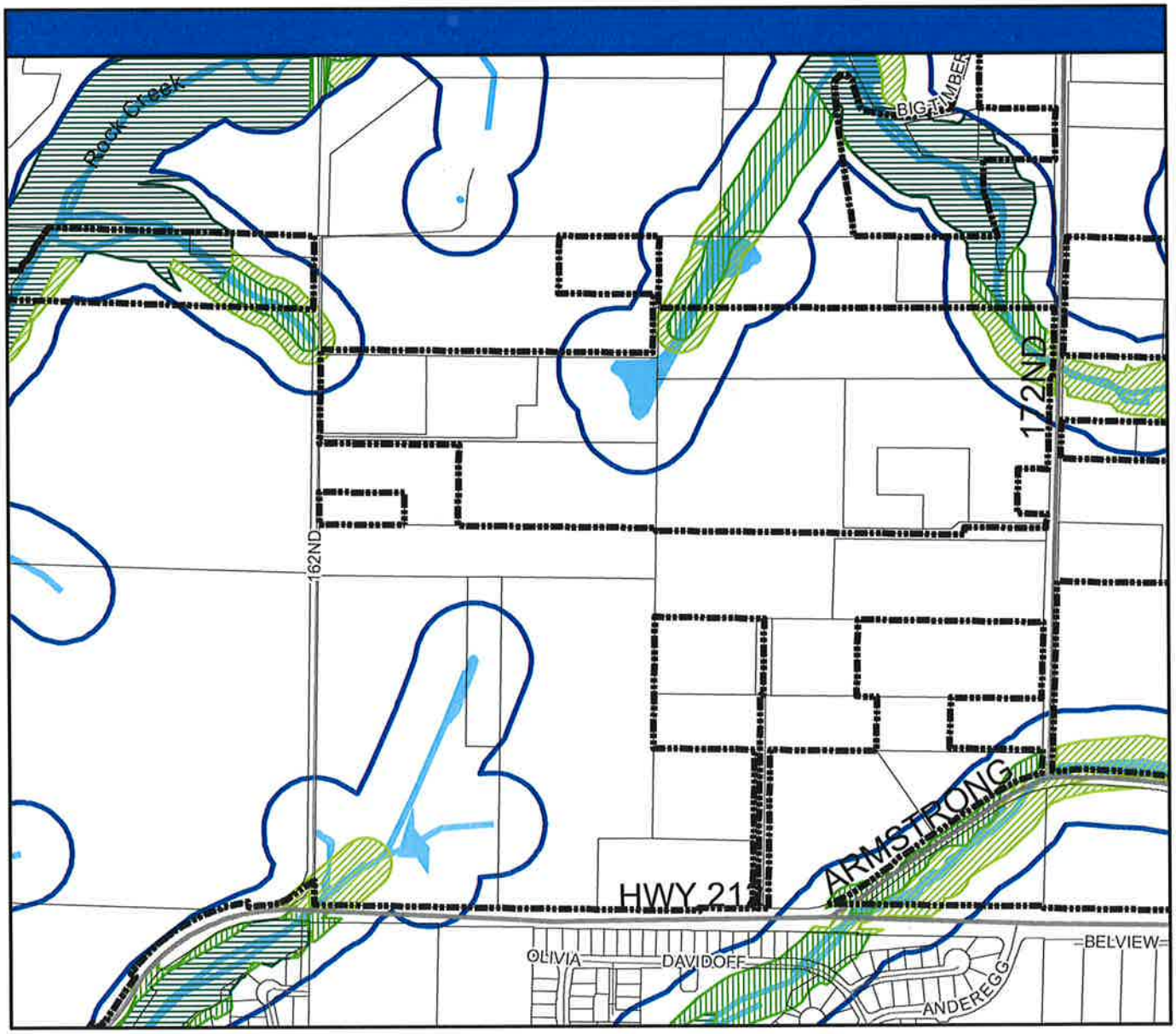
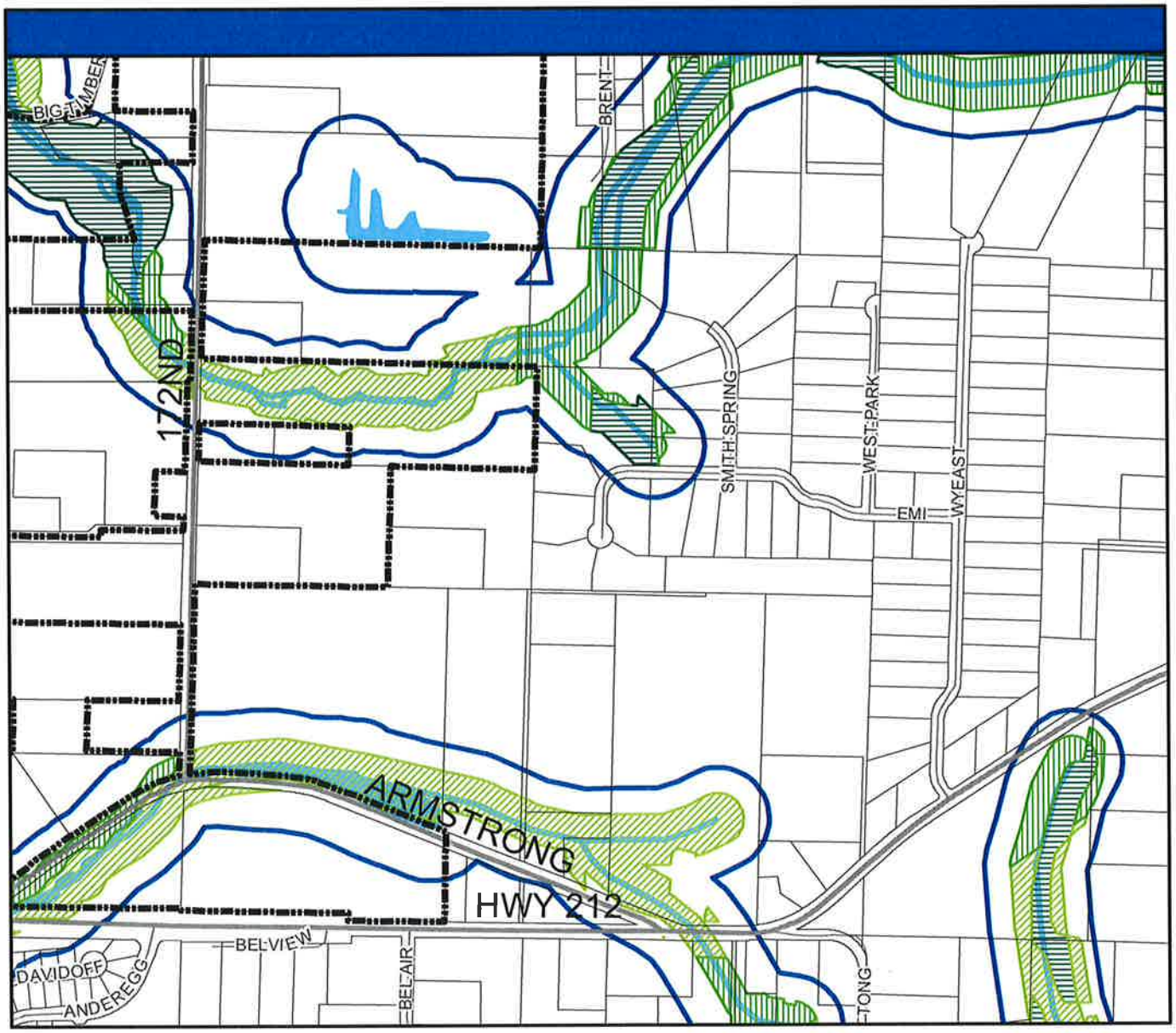
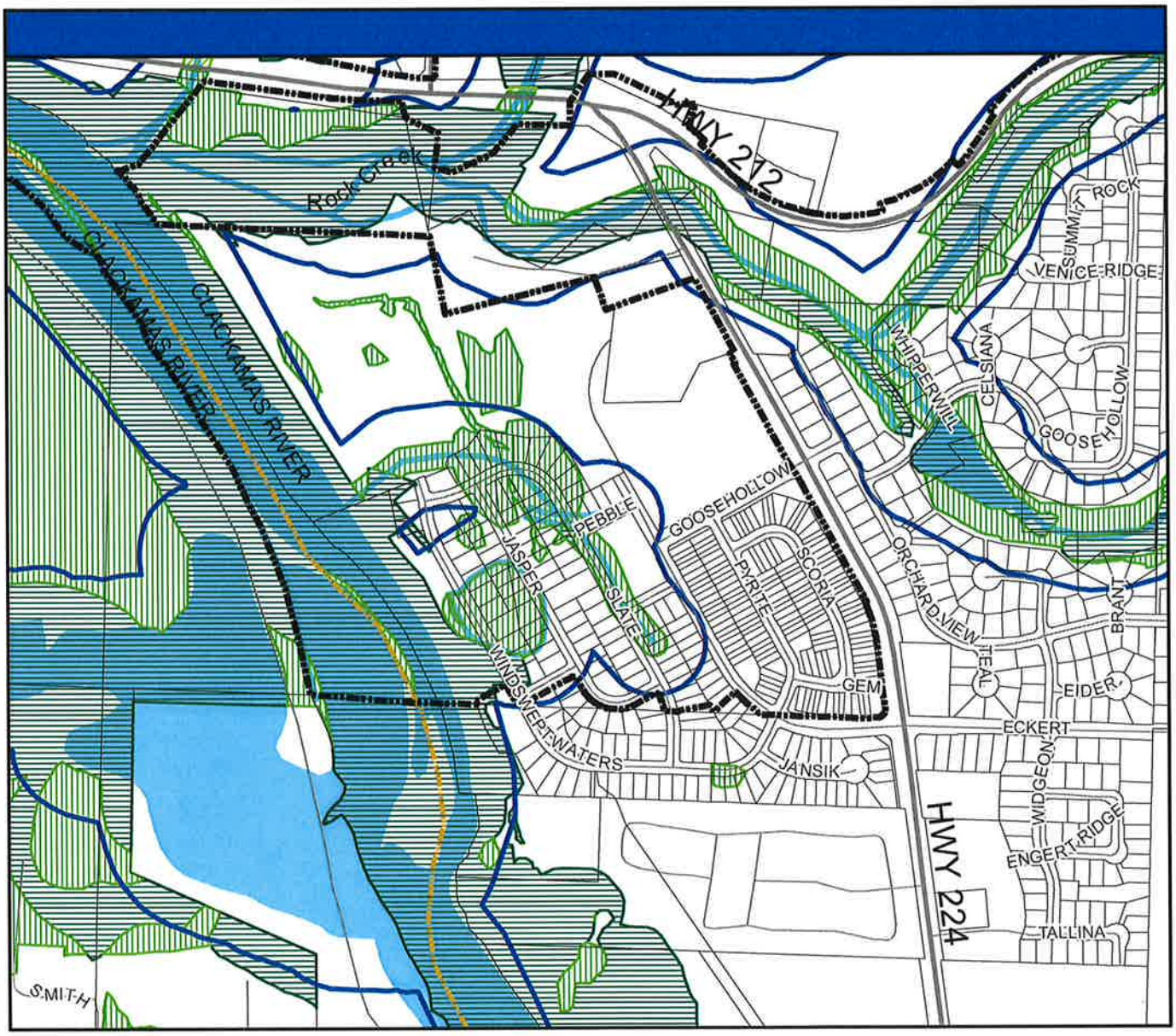

PIONEER
FRONTIER
GILESFORD
BRACKENBUSH
146TH
CHARJAN
POMFRET
PADDINGTON
BERKSHIRE
HEMMEN
COVINGTON
BRADFORD
150TH
152ND
STANHOPE
DEER HAVEN
MIA
SEDONA
PINEGROVE
ELKHORN
MISTWOOD
LOUISE
LALA
COLE
151ST
DAYSPRING
MORNING
HWY 212
Rock Creek
ARBOR VALLEY
154TH
OLDS
155TH
EMERY
Rock Creek
HWY 212




Rock Creek
BIG TIMBER
172ND
162ND
HWY 21
ARMSTRONG
OLIVIA
DAVIDOFF
ANDEREGG
BELVIEW


BIG TIMBER
BRENT
172ND
SMITH SPRING
WEST PARK
EMI
WY EAST
ARMSTRONG
HWY 212
BEL VIEW
BEL AIR
DAVIDOFF
ANDEREGG
TONG

135TH
DOE
135TH
FAWN
SIEBEN CREEK
CLACKAMAS RIVER
CLACKAMAS RIVER
Rock Creek
SMITH


HWY 212
Rock Creek
CLACKAMAS RIVER
SUMMIT ROCK
VENICE RIDGE
CELSIANA
WHIPPERWILL
GOOSE HOLLOW
GOOSEHOLLOW
PEBBLE
JASPER
SLATE
PYRITE
SCORIA
ORCHARD VIEW
BRANT
TEAL
EIDER
GEM
WINDSWEPT WATERS
JANSIK
ECKERT
WIDGEON
ENGERT RIDGE
TALLINA
HWY 224
SMITH

City of Happy Valley Steep Slopes and Natural Resources Overlay Zone Map:
Data Sources and Updates

The following describes the sources of the data displayed on the map and when the data was generated or most recently updated.

Water Quality Areas:
Protected Water Features – combines data from 4 sources:

- Streams from Metro's Regional Land Information System (RLIS) database, released August 2008.
- Local stream inventory provided by Clackamas County Water Environment Services (WES) – fieldwork done in 2007; field verified where property access was granted.
- Wetlands from Metro's RLIS database, which is the National Wetland Inventory with revisions approved by local jurisdictions; released August 2008.
- Draft local wetlands inventory from the City of Happy Valley – fieldwork done spring 2007; field verified where property access was granted.

Maximum Extent of Vegetated Corridors – derived as a 200 foot buffer from all of the data sources above. Created September 2008.

Habitat Conservation Areas:
Data published by the Metro Data Resource Center in February 2005.
Layer depicts the Metro Fish and Wildlife regulatory program defined in Exhibit A to metro Resolution No. 04-3506A. The layer divides the region's significant habitat into high, moderate, or low conservation areas. These designations were arrived at by comparing ecological values to competing development and policy values. The layer and supporting reports are the culmination of Metro's Environmental, Social, Economic, and Energy (ESEE) consequences analysis for Fish and Wildlife habitat protection.

Steep Slopes:
Conservation Slope Area & Transition Slope Area – slope data provided by WES, based on Light Detection and Ranging (LIDAR), a remote sensing system used to collect topographic data. LIDAR data collected March 2004.

Transition Slope Area – derived as a 25 foot buffer from all Conservation Slope Areas based on the data source above. Created September 2008.

Major Utility Corridor – from Clackamas County, January 2004.

Boundaries:
Happy Valley City Limits – provided by the City of Happy Valley; current as of September 2008.

Urban Growth Boundary – from Metro's RLIS database, released August 2008. Includes all changes to the UGB through that date.

Parcel Boundaries – from Metro's RLIS database, released August 2008. Mapped tax lot lines are created and maintained by county Assessment and Taxation offices, and delivered to and published by Metro quarterly.

Roads:
All road data (*Freeways*, *Major Streets*, and *Local Roads*) comes from Metro's RLIS database, released August 2008.

Draft Comprehensive Plan Text Amendments

[...]

HISTORY

The Happy Valley area was originally settled by the Christian Deardorff family in 1851 as a part of a United States Donation Land Claim. Other settlers soon followed, creating a small agricultural community. Produce from ~~the~~ **area** farms was carried to ~~the~~ **markets located in** Lents ~~area~~ and ~~to the markets~~ along Foster Road. **Besides orchard, field, and garden crops the farmers of the area also raised poultry and livestock, of which some was sold at area markets and some was for personal use.**

For several years after the first settlers arrived in the area, trails made by wagons cutting tracks through the woods and fields provided the best routes for getting around. As time went by, settlers improved some of these trails to create the first roads connecting the valley with the surrounding communities. Eventually, the trail over Mount Scott was widened and graded by residents of the Valley with horse-drawn scrappers, making this the main route from the valley to neighboring markets.

Around 1900, John M. Deardorff felt there should be another way out of the Valley besides the difficult road over Mount Scott. Mr. Deardorff persuaded the County Commissioners to have a new road surveyed and constructed going north from the Valley to Foster Road. This road still serves commuters today as Deardorff Road, named after John M. as a tribute to his efforts. It should be noted that it wasn't until 1925 that the County started to pave roads in the Happy Valley area, to accommodate the future needs of automobiles.

A few old dwellings from the pre-1890 era still exist in Happy Valley. The Strickrott, Ulrich, and Rebstock homes stand today as reminders of past settlement and life in the area. ~~A few old barns are also standing today, including a barn built by John Deardorff in 1891. Although greatly expanded, the second school structure, built in 1917 to replace the original one-room structure, forms an integral part of today's school.~~ **The Meng homes (located on SE King Road near SE Rolling Hills Drive) and the Donaldson house (located on Highway 212 near Rock Creek) are examples of homes built during a period from 1920-1940 known as the "Interwar" period.**

An example of a historic resource that captures the rural character of the aforementioned east Happy Valley area is the Hazelfern Dairy. Built in 1930, the dairy consisted of a residence, garage, and two barns and still serves as a farm and residence today, though not for commercial dairy production.

EXHIBIT J

The Deardorff Cemetery **is an example of a historic place within the City. It was created** ~~was developed~~ on only one of the five acres **located in the area that was** donated for such a purpose. Most of the individuals buried there were relatives of the Deardorffs. The first burial occurred in 1852, while the most recent burial took place in 1932. The cemetery is now cared for by the "Christilla Pioneer Cemetery Association" which proposes to help restore and maintain the cemetery. The deed has been obtained to set the graves aside as a county cemetery. ~~These historical features are of interest and value only to those familiar with and interested in the City's history.~~

Preservation of the City's historical features is in the best interest of residents and those familiar with and interested in the City's history to provide a link to the City's past. The City encourages retention of these features, and the restoration and maintenance of them to their original condition. A number of individual features have been identified in the City **by both Clackamas County and the Oregon State Preservation Office** as having historic value. ~~Historic value refers here to the value placed on the resource by the City only.~~ No individual features **located within the City** are included on the National Register ~~or State Register~~ at the time this plan was adopted. However, features which are later placed on any register will automatically be included in the City's inventory of features to be protected. ~~The potential~~ **A current list of the City's** historic resources includes the following and comprises the entire inventory within the City.

1) The Strickrott Home- 12510 SE Mt. Scott Blvd. (SHPO #1024)
2) The Rebstock Home- 12915 SE King Rd.
3) The Ulrich Home- 12300 SE Mt. Scott Blvd. (SHPO #1023)
~~4) The John Deardorff Barn~~ (Demo)
5) The Deardorff Cemetery
~~6) A portion of the Happy Valley School structure, dated 1917~~ (Demo)
~~7) An original cobblestone road (within the Callahan Extension)~~ (Demo)
8) Christian and Dara Meng House - 14230 SE King Rd. (SHPO #2196)
9) Florian D. and Helen L. Meng House - 14170 SE King Rd. (SHPO #2197)
10) John Donaldson House - 15221 SE Hwy 212 (SHPO #1038)
11) Hazelfern Dairy- 14933 SE 172nd Ave. (SHPO #1051-1052)

By utilizing the Historic Overlay District ~~of the LDO~~, ~~Sec. 6.20, the City has identified those features which shall be protected under provisions of the LDO.~~ **as set-forth in the City's Land Development Code (LDC), the City has a means of regulating the development of historic and cultural resources.** Each feature contained in the inventory is evaluated and determined to be either "worthy of protection" or "not worthy of protection". Features determined "worthy of protection" shall be governed by the Historic Overlay District of the LDC. **Through the public hearing process, the Planning Commission is the decision-making body that determines if a historic resource that is deemed "worthy of protection" per the following criteria:**

a. Exemplifies or reflects special elements of the city's history;

b. **Is identified with persons or events significant in local history;**

c. **Embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;**

d. **Is included in an official register of historic and cultural resources;**

e. **Is owned or controlled by a public, semi-public or not-for-profit entity; or**

f. **Has already received significant effort to preserve, restore and/or maintain.**

In addition, the Planning Commission is the review body that determines, through a public hearing process if a "worthy of protection" historic resource is allowed to be removed from the inventory, in the case of proposed demolition or relocation, typically associated with tha development proposal. It should be noted that ~~N~~no public funding will be expended for privately-owned resources. ~~The following is the listing of each feature in the inventory and the determination of the historic value of each in terms of protection.~~

Feature	Criteria	Determination
Strickrott Home	a, b, c, f	Worthy
Rebstock Home	a, b, c, f	Worthy
~~Ulrich Home~~	~~b~~	~~Not Worthy~~
~~Deardorff Barn~~	~~a, b~~	~~Not Worthy~~
Deardorff Cemetery	a, b, e, f	Worthy
~~Portion of H.V. School~~	~~a, b, e, f~~	~~Worthy~~
~~Cobblestone Road~~	~~a, c, e, f~~	~~Worthy~~
Christian and Dara Meng House	**a, b, c, d, f**	**Worthy**
Florian D. and Helen L. Meng House	**a, b, c, d, f**	**Worthy**
John Donaldson House	**a, b, c, d, f**	**Worthy**
Hazelfern Dairy	**a, c, d, f**	**Worthy**

[...]

Policy 1: The Citizen's Advisory Committee shall be an ongoing part of the City government and operations in matters of land planning and other aspects of community development, including review and, if necessary, revision of the Comprehensive Plan every two years.

Policy 2: The plan and all of its elements and implementing documents shall be opened for amendments that consider compliance with the Goals, Objectives and Plans of the Metropolitan Service District. This procedure shall occur every two years and may be so amended or revised annually if deemed necessary by the City Council. Amendment and revision for compliance with regional goals, objectives and plans should be consistent with a schedule for reopening of local plans which has been approved by the Land Conservation and Development Commission (LCDC).

Goal #14 – To provide for an orderly and efficient transition from rural to urban land use.

Policy 3: ~~To provide for the orderly and timely conversion of land to urban uses in accordance with the Revised Buildable Lands Inventory, the available base information and the Composite Development Suitability Analysis~~.

Deleted by Ordinance No. ___, ___, 2009

Policy 4: To insure orderly development in the City of Happy Valley through formulation of growth management policies and guidelines which will determine that development can occur only when adequate levels of services and facilities are or will be available.

Policy 5: To encourage controlled development while maintaining and enhancing the physical resources which make Happy Valley a desirable place to live.

Policy 6: To assure that the development of properties is commensurate with the character and physical limitations of the land in the Happy Valley area as determined by the available base information and the Composite Development Suitability analysis.

Policy 7: To coordinate with the Metropolitan Service District (Metro) on any proposed changes or adjustments of the Urban Growth Boundary in the immediate vicinity of the City.

Policy 8: To assume proportionate responsibility for development within the City of Happy Valley consistent with projected population for the City.

Goal 7 – To protect life and property from natural disasters and hazards.

Policy 9: Recognize the potential liability of the City if land with known hazards which endangers life or property is allowed to be developed.

Policy 10: ~~Prohibit~~ **Limit** development in identified natural drainage-ways, floodplains**,** ~~and~~ wetlands**, steep slopes and landslide hazard areas**. ~~Development in these areas will be limited to open space, recreation or other appropriate uses which minimize the potential loss of life or other property. Ordinances will be written to comply~~

~~with federal and state regulations~~.**Housing development, and any other development intended for human occupancy, shall occur, to the greatest extent possible, on lands designated for development that are free from flood hazard, slope limitations, or other hazards**.

Policy 11: Dedication of lands to the City within natural drainage channels and floodplains may be required as a condition for development near the channel, or to meet the needs for community recreation and open space.

Policy 12: Modifications to the natural drainage channels including clearing, filling, diking or the construction of dams or levees shall be done in accordance with the City's Land Development Code.

Policy 13: Development which increases runoff and erosion, or which has the potential for undermining downhill development through significant increases in runoff will be restricted.

Policy 14: The allowed intensity of development will be correlated with the degree of natural hazard. When slopes are over ~~20~~**15**% gradient, the intensity ~~**location, and amount**~~ of development **shall be regulated in compliance with the City's Land Development Code** ~~may exceed that provided by the RSD-1 overlay district only at the discretion of the City~~. **The City will maintain the *Happy Valley Steep Slopes and Natural Resource Overlay Zone Map* to show the general location of steep slopes within the City.**

Policy 15: **Require** ~~E~~engineering studies by private developers, the City and other government agencies for sites proposed for development within areas of suspected or known hazards ~~and~~ **to include** compliance with appropriate chapters of the adopted Uniform Building Code**, the City's Engineering and Design Standards Manual, and** applicable sections of the Happy Valley Land Development Code~~, are required~~. **In addition, these studies should define risks of development by using Federal Emergency Management Agency maps showing flood plains and floodways. The City will restrict buildings in the flood plains and prohibit buildings in the floodway.**

Goal 5 –To conserve and protect natural and scenic resources.

Policy 16: Manage wooded areas within the City through the annexation and land division process and through the City's tree removal requirements. The City shall encourage tree retention prior to development by requiring that lands annexed within the city limits, but which have not filed for land division or site design review, are not eligible to receive tree removal permits except for the removal of hazard trees or the harvest of commercial trees, including nursery stock, Christmas trees, etc., but exclusive of generally forested lands. An exception exists for land

currently zoned Exclusive Farm Use (EFU) within Clackamas County, which is currently in a state or county tax deferral program for timber production. Said lands, subsequently annexed into the city, shall be treated as a "tree farm" for purposes of this section for so long as the deferrals remain in effect.

In order to further protect natural and scenic resources, the City of Happy Valley shall coordinate with the regional government (Metro) and various state and federal agencies to ensure that current natural resource regulations and requirements are codified within the City's Development Code. In addition, for lands previously located within unincorporated Clackamas County that have annexed to the City of Happy Valley – mass tree removal on said lands prior to annexation shall result in an assessment of, and mitigation for removed trees in conjunction with the land division or site design review process.

Policy 17: **Wetlands and streams located within the City of Happy Valley are governed by the City's Development Code, state and federal regulations. Approximate locations and classifications of wetlands and stream reaches are located within the City's Local Wetland Inventory.** ~~No wetlands have been identified within the present City boundary. Future annexations may encompass wetlands and will require management to preserve the integrity of the wetland area.~~

Policy 18: ~~Revise e~~ **E**xisting road standards **maybe revised** to reflect narrower width in resource areas and on steep slopes.

Policy 19: Minimize the number and width of utility rights-of-way through resource areas. Establish utility alignments sympathetic to the natural form of the resource and topographic contours.

Policy 20: Inventory the location, quality and quantity of open space, scenic areas and historic sites to be managed in the development process.

Policy 21: Maintain relationship of open space to permitted development in order to preserve the character of the natural setting and to provide for recreation and visual relief from development.

Policy 22: Encourage multiple use of open space, provided the uses are compatible. Enhance the value to the public of abutting or neighboring parks, forest, wildlife preserves or other permanent open space.

Policy 23: Protect any identified significant historic resources from inappropriate development.

Policy 24: Avoid disposition of publicly owned land and rights-of-way before an evaluation of their merit as public open space.

Policy 25: Maintain public views of Happy Valley from such higher elevation locations as road rights-of-way and public parks.

Policy 26: Require provision of open space in all new planned unit developments (P.U.D.'s) and subdivisions over a size which is established by a revised development ordinance.

Policy 27: Discourage artificial and unnatural features including but not limited to signs and billboards.

Policy 28: Conserve the area's unique natural resources through their inclusion in the ~~overall~~ **Comprehensive Plan, and development approvals,** ~~Land Use Plan~~ in a manner which considers surrounding uses and provides a continuity of open space character and natural features, throughout the City.

Policy 29: ~~Land outside the buildable area as identified by the Revised Buildable Lands Inventory should be developed only if the land is not within a resource area as identified by the City's resource inventory. Non-resource land areas outside the buildable area may be given a land use designation which will permit limited levels of development. The City's resource inventory is part of the background information assembled for use in the planning process.~~

Deleted by Ordinance No. ___, ___, 2009

Policy 30: **Land development applications, grading permits and building permits that affect natural resource and steep slopes areas are subject to separate environmental review procedures assessing the impact of the proposed land use action or development permit, subject to the City's Development Code.** ~~Where a determination has been made which will permit development on resource lands outside of the identified buildable area of the City, the conflict must be resolved and the final course of action justified through an "ESEE" (Environment, Social, Economic and Energy) analysis provided by the applicant, property owners, or developer and reviewed by the City.~~

Policy 30A: Special regulations protecting steep slopes are required because such areas:

- **Are generally more difficult and expensive to serve with urban infrastructure as compared to less steep lands;**
- **Provide wildlife habitat, tree canopy, and other environmental benefits;**
- **Are located at the headwaters of watersheds that provide clean drinking water to downstream users, including Happy Valley residents;**

- **Contribute to the scenic landscape of Happy Valley which is a strong part of the City's identity and livability; and,**
- **Are often adjacent to regulated natural resource areas and/or public green spaces.**

Policy 30B: Slope constrained lands are regulated by the steep slopes development overlay (SSDO). The purpose of the SSDO is to:

Policy 30B.1: Contribute to compliance with Statewide Planning Goals 5 (Natural and Scenic Resources) and 7 (Areas Subject to Natural Disasters and Hazards). For Goal 7, the SSDO specifically minimizes seismic and landslide hazards and soil erosion associated with development on steep or unstable slopes;

Policy 30B.2: Regulate development and provide special protection on lands within "conservation slope areas" and "transition slope areas" as follows:

a) Within conservation slope areas, development is generally prohibited.

Conservation slope areas include:

- **Slopes 25 percent and greater.**
- **Potentially Hazardous Analysis Areas (lands within 25 feet of the top or toe of slopes 25 percent and greater).**
- **Areas containing potentially rapidly moving landslide hazard areas mapped by the Oregon Department of Geology and Mineral Industries (DOGAMI).**

b) Within transition slope areas, conservation and development are balanced. Transition slope areas include:

- **Slopes 15 to 24.99 percent.**

Policy 30B.3: Regulate the potential residential density and facilitate transfer of development away from slope constrained lands.

Goal 6 – To maintain and improve the quality of the air, water and land resources in Happy Valley.

Policy 31: Maintain mandatory air and water quality standards of Federal and State Statutes, and comply with applicable portions of the State Water Quality management Plan OAR 340, Division 41.

Policy 32: Deleted by Ordinance #374, July 1, 2008

Policy 33: Approve sewage disposal or sewer system hook-ups by appropriate agency and/or comply with subsurface Sewage Disposal Rules OAR 340, division 71, 74 and 75, ORS 468.020, 468.035 and ORS 454.615 et. Seq. for replacement septic systems on existing lots of record.

Policy 34: Comply with plan review requirements of the Oregon Department of Environmental Quality for extension of sewer systems. (ORS 468.742).

Policy 35: Maintain riparian vegetation and avoid degradation of natural features adjacent to drainage channels and conservation easements to minimize runoff and erosion affecting water quality.

Policy 35A: The City shall adopt regulations and standards to protect streamside vegetative buffers and other natural resource areas that contribute to water quality consistent with Statewide Planning Goal 6, Clackamas County Water Environment Services, and Metro Title 3 requirements.

Policy 35B: Where appropriate, the City shall encourage nature-friendly development practices to minimize the impact on fish and wildlife habitat and water quality functions, and to provide mitigation standards for the replacement of ecological functions and values lost through development in natural resource areas.

Policy 35C: The general location of water features that must be protected shall be indicated on the *Happy Valley Steep Slopes and Natural Resources Overlay Zone Map*; however, regulatory definitions and provisions in the Development Code shall be used to determine exact locations.

Policy 36: Require review by the City of Happy Valley of plans prepared by State and county agencies which could affect the air, water and land resources of the City.

Policy 37: Comply with policies relevant to this goal outlined under LCDC Goals 5, 7 and 11.

Policy 38: Comply with noise control standards contained in State Statues ORS 467.010 and OAR 340-35-005 through 35-100.

Policy 39: Require paving or oiling of roads where dust levels are deemed to represent an unacceptable increase in the degradation of air quality within the designated Air Quality Maintenance Area.

Policy 40: Maintain acceptable noise exposure levels as identified by the Department of Environmental Quality on properties adjacent to heavily traveled arterials and steep streets, through development of specific ordinance requirements.

Policy 41: Areas of the City which have exhibited a documented predominance of failing septic systems should be connected to the nearest feasible existing sanitary sewer at the soonest possible time. The balance of the City will be serviced in accordance with the City's Facilities Plan and Capital Improvements Plan.

Goal #10 – To provide for the housing needs of the citizens of the State.

Policy 42: To increase the supply of housing to allow for population growth and to provide for the housing needs of a variety of citizens of Happy Valley.

Policy 43: To develop housing in areas in areas that reinforce and facilitate orderly and compatible community development.

Policy 44: To provide a variety of lot sizes, a diversity of housing types including single family attached (townhouses) duplexes, senior housing and multiple family and range of prices to attract a variety of household sizes and incomes to Happy Valley.

Amendments to Housing and Land Use Policies

Housing Element Policies

[…]

Policy 45: ~~Medium densities shall be promoted through the implementation of the R-5 and SFA districts, with design standards where necessary, to reduce energy consumption, facilities and services costs and urban sprawl.~~ **The City shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels that are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.**

Policy 46: The City shall provide a range of housing that includes land use districts that allow senior housing, assisted living and a range of multi-family housing products. This range improves housing choice for the elderly, young professionals, single households, families with children, and other household types.

Policy 47: ~~Medium and high density housing (R-5, SFA and MUR districts) can provide a compatible transition between high intensity uses such as Community or General Commercial Districts and lower intensity uses such as R-7, R-8.5, R-10, R-15 and R-40 Residential Districts~~ **Reserved**

Policy 47A: ~~In East Happy Valley, the MUR district is intended to establish locations for attached housing and mixed uses, contribute to a variety of housing choices in each neighborhood, support transit, and be part of walkable~~

~~neighborhoods and districts. MUR densities are established in the zoning code.~~ **Reserved**

Policy 48: The Land Development Code will be revised to comply with the Comprehensive Plan to allow for changes over time as the City goals and policies change

Land Use Element Policies

Goal #2 – To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions. Related to use of land and to assure an adequate factual base for such decisions and actions.

Policy 49: To ensure orderly development in the City of Happy Valley.

Policy 50: To locate land uses so as to take advantage of existing systems and physical features, to minimize development cost and to achieve compatibility and to avoid conflicts between adjoining uses.

Policy 51: Residential Districts
The following ~~new~~ residential land use districts ~~were considered and adopted in 2005~~ **are established** in order to accommodate a range of housing needs in Happy Valley:

Low Density Residential – R-40, R-20, R-15
Medium Density Residential – R-10, R-8.5, R-7
High Density Single Family Residential – R-5, MUR-S
High Density Residential Attached – SFA, MUR-A, VTH, MUR-M and MUR-X

Policy 51A: ~~Residential 5,000 square feet (R-5):~~
~~The purpose of the R-5 is to provide a development district that will allow single family (attached and detached) as well as duplexes, triplexes and very limited neighborhood commercial uses within the city. Sanitary sewer and water are the most essential of urban services, but all Level 1 services and facilities are necessary and required for development at full density. Density in the R-5 is not to exceed one unit for each five thousand (5,000) square feet per dwelling and there is an average lot size of 5,000 square feet.~~

Low Density Residential Districts (R-40, R-20, R-15). Theses districts provide for compatibility with existing large lot residential patterns in the City. The are also intended to help balance the conservation of resources (e.g. steep slopes, habitat, tree canopy) with low impact

development. Clustering and other hillside protection measures may be required to minimize the impact of development.

These districts may be located where steep slopes (generally greater than 15%) or other resources are present, and where clustering, transfer and/or limited access require a low base density.

Policy 51B: ~~Single Family Attached (SFA):~~

~~The purpose of the SFA district is to promote the livability, stability and improvement of Happy Valley's existing and new neighborhoods and to provide opportunities for a variety of medium density residential housing types, with a density range of 10 to 15 dwelling units per acre. SFA also allows for single family attached dwellings, duplex and triplexes, as well as limited neighborhood commercial uses.~~

Medium Density Residential Districts (R-10, R-8.5, R-7) – These districts provide for a variety of single family lot sizes and building types in neighborhood settings. They also allow attached housing as part of Planned Unit Developments. They provide transition between Low Density Residential Districts and High Density Districts.

These districts are applied throughout the City generally on slopes less than 15%. They should be located to promote compatibility and transition from higher to lower density within neighborhoods.

Policy 51C: ~~R-5 and SFA districts:~~

~~The most appropriate location for the new R-5 and SFA residential districts is in areas of Happy Valley annexed after the end of 2004. However, existing properties may be re-zoned to R-5 or SFA when the following compatibility requirements are met:~~

~~1) The size of the property to be re-zoned is at least two (2) acres.~~

High Density Single Family Residential Districts (R-5, MUR-S). These districts provide for smaller lot and attached housing choices in Happy Valley. The smaller lots, duplexes and triplexes permitted are intended to help broaden the variety of housing choices in the City, promote compact form in appropriate areas, and assist in meeting Metro requirements. The MUR-S district permits mixed use in limited situations in order to provide goods, services, and jobs close to residential areas.

These districts may be located in transitional areas between High Density Residential Attached and lower density single family districts. They may also be part of master planned developments, where greater flexibility in their location may be considered.

Policy 51D: ~~R-40 district:~~

~~The purpose of maintaining the R-40 zone is to be consistent with the Damascus/Boring Concept Plan. Generally, it is no longer appropriate for Happy Valley because this lot size discourages efficient development patterns. The R-40 district may only be applied in newly annexed rural areas in order to protect natural resources, steep slopes and hilltops from more intense development patterns.~~

High Density Residential Attached (SFA, MUR-A, VTH, MUR-M and X). These districts provide for a variety of attached housing and neighborhood commercial uses. They are intended to make efficient use of land and public services, accommodate a range of housing needs, provide for compatible design at neighborhood scale, reduce reliance on the automobile for neighborhood travel, provide for walking, bicycling and transit use, and provide direct and convenient access to schools, parks and neighborhood services.

These districts may be applied near (generally within ¼ mile) of mixed use centers and districts, along collector and arterial streets, and within a block of streets planned for transit. They may also be part of master planned developments, where greater flexibility in their location may be considered.

Policy 51E: ~~R-20, R-15, R10 districts:~~

~~The R-20-, R-15, and R-10 may be applied in newly annexed areas of Happy Valley that have significant forest cover, significant natural resources to be protected, or where some Goal 5 resource protection is desired but not required.~~

Residential land uses will be organized to form complete neighborhoods. Complete neighborhoods include a variety of housing types, park and open space, a definable center (e.g. a park or school) and edge (e.g. transportation or open space corridor), a mix of uses, and a well-connected network of streets and pedestrian ways. The degree to which each of these characteristics is provided will vary with the location and context of the neighborhood.

~~Policy 51F: R-8.5 district:~~

~~The R-8.5 may be applied throughout Happy Valley as a transition between R-40 through R-10 districts and the R-7, R-5 or SFA districts.~~

[...]

Commercial and Employment Element Policies

Policy 54: To encourage compatible residential, commercial and **light** industrial development in both the City of Happy Valley and nearby Clackamas County that will provide jobs. **The City supports the development of commercial and employment uses in the Rock Creek Employment Area and in other areas, subject to design standards.**

Policy 54A: To reduce vehicle miles traveled and street congestion, and to provide local employment opportunities, Happy Valley will encourage home based businesses that show no outward signs of business activity and fully retain the residential character of existing neighborhoods.

Policy 54B: To comply with Statewide Planning Goal 9 (Economy of the State) and to meet long-term neighborhood-oriented commercial and office needs for existing and future City residents in the Rock Creek Area, Happy Valley has annexed existing and planned commercial and office sites served by Sunnyside Road in the Rock Creek Area. **In addition, to meet the long term needs of Happy Valley residents for local services and employment land, the City has created a broad range of commercial, employment and light industrial districts.**

Policy 54C:

~~Policy 54D: Happy Valley will coordinate with Clackamas County in the adoption of "concurrency" standards for development served by Sunnyside Road.~~

~~Policy 54E:~~ Happy Valley shall ensure that all commercial and office centers are accessible by transit, bicyclist and pedestrians, generally as shown within the City's current Transportation System Plan.

Policy 55: To improve the economy of Happy Valley by providing a range of land use types including a variety of commercial and employment districts. The following ~~new~~ commercial and employment districts **are** applicable for any location in the City ~~were considered and adopted in 2005~~:

Policy 55A: ~~General~~ **Mixed** Commercial **Center** (~~G~~**MC**C). The ~~General~~ **Mixed** Commercial **Center** district is intended to establish locations for the development of general commercial centers providing a broad range of shopping and service requirements to meet city-wide needs. **The Mixed**

Commercial Center district, as applied in East Happy Valley, corresponds to the Damascus/Boring Concept Plan's designation of Neighborhood Centers. These mixed use centers in East Happy Valley accommodate retail services with a focus on meeting resident's daily shopping needs. They are planned to be well served by transit and be integrated with mixed use and higher density housing – thus supporting less auto-dependent life styles. These centers are also appropriate locations for civic uses such as post offices and branch libraries. Their design is intended to be highly pedestrian-oriented.

Policy 55B: Community Commercial **Center** (CC**C**). Community Commercial **Center** is intended to provide locations or "nodes" for a range of small businesses and services adjacent to residential areas as a convenience to nearby residents. **The Community Commercial Center district, as applied in East Happy Valley, corresponds to the Damascus/Boring Concept Plan's designation of Corner Store centers. These mixed use centers in East Happy Valley accommodate small scale retail and services that meet the convenience needs of neighborhood residents. Mixed use is allowed and encouraged. Access to these centers is provided by well-connected local streets and safe bicycle and pedestrian routes. Their design is intended to be highly pedestrian-oriented.**

Policy 55C: Location and compatibility of commercial districts. ~~General Commercial~~ **MCC** and ~~Community Commercial~~ **CCC** ~~zones~~ **districts** are limited to areas of Happy Valley annexed after the end of 2004. Neighborhood Commercial uses associated with the Rock Creek Mixed-Use Employment, R-5 and SFA districts may be allowed throughout Happy Valley subject to special standards. The location and compatibility criteria in sub-policies 55B.1-55B.3 apply:

Policy 55C.1: ~~General~~ **Mixed** Commercial **Center** location and compatibility. New ~~commercial~~ **MCC** districts shall be limited to an area of ~~10~~ **15** acres of contiguous land. Building **footprint** ~~area~~ **size** on a**ny given** site is ~~also~~ limited to 60,000 sq. ft. per structure. Appropriate locations for ~~General Commercial centers~~ **MCC districts** are generally at the intersection of the following types of streets as designated in the City's TSP:

a) Major or minor arterial street and major or minor arterial street
b) Major or minor arterial street and collector street

All MCC developments involving five acres or more of land shall be subject to master plan review and design review. In the East Happy Valley Comprehensive Plan Area, a master plan approval

is required for the entire contiguous area of any MCC district prior to new development.

In the East Happy Valley Comprehensive Plan Area, one Mixed Commercial Center may exceed the 15-acre limit noted above but shall not exceed 20 acres of contiguous property. In this center, the maximum building footprint size is limited to 150,000 square feet per structure. Further, as part of demonstrating compliance with master plan requirements, design review to the Happy Valley Style, and other code criteria, applicants shall demonstrate how: (1) the visual impact of larger scale development has been mitigated; (2) the streetscape is pedestrian-oriented and varied to create visual interest, (3) public amenities are provided and scaled appropriately; (4) transitions to adjacent areas and future development are provided; (5) adequate infrastructure is provided; and, (6) overall design excellence justifies the larger than normal scale of the project.

Policy 55C.2: Community Commercial **Center** location and compatibility. New ~~Community Commercial~~ **CCC** districts are limited in size to not more than ~~two~~ **five** acres of contiguous land. Building **footprint size** ~~area~~ on a**ny given** site is ~~also~~ limited to 30,000 sq. ft. per structure. Appropriate locations for ~~Community Commercial nodes~~ **CCC districts** are generally at the intersection of the following types of streets as designated in the City's TSP:

a) Major or minor arterial street and major or minor arterial street
b) Major or minor arterial street and collector street
c) Collector street and collector street

Policy 55C.3: Neighborhood Commercial location and compatibility. ~~New Neighborhood Commercial districts and~~ Neighborhood commercial uses within certain residential districts are appropriately located on lots at the intersection of the types of streets listed below, as designated in the City's Transportation System Plan. There is a corresponding maximum building area for each Neighborhood Commercial development:

a) Major or minor arterial street and collector street: 7,000 square feet per building.
b) Collector street and collector street: 5,000 square feet per building.

c) Collector street and local street: 3,000 square feet per building.

Policy 55C.4: Master plan the neighborhood centers along 172nd Avenue (Borges extension and Sunnyside areas) to ensure excellent, pedestrian-oriented design. The City's master plan, design review and Happy Valley style procedures and requirements shall be used to plan the neighborhood centers.

Policy 55~~C~~**D**:

~~To plan for the creation of the Rock Creek Employment District.~~

~~The Rock Creek Employment District is an approximately 146-acre area located generally northwest of the intersection of Oregon Highway 224 and SE 162nd Avenue. The Area has historically been zoned Exclusive Farm Use ("EFU") pursuant to Clackamas County's acknowledged comprehensive plan and land use regulations while it was outside of the Portland Metropolitan Urban Growth Boundary ("UGB"). This area is subject to the Damascus-Boring Concept Plan ("Concept Plan") required by the site's 2002 inclusion within the UGB. The Concept Plan, approved by Metro and the Happy Valley City Council, established that this area will be an Employment Area implementing Metro Functional Plan Title 4, "Industrial and Other Employment Areas." However, the site is not subject to the Industrial or the Regionally Significant Industrial Area restrictions contained in Title 4.~~

~~To implement the Concept Plan vision for this site, the City intends to establish a Rock Creek Mixed Employment ("RC-ME") zoning district consistent with applicable provisions of the Happy Valley Comprehensive Plan and the Metro Functional Plan providing for a variety of employment-generating uses. The City shall implement the District by designating the area with a Rock Creek Mixed Employment comprehensive plan map and zoning map designation.~~

~~The City acknowledges that the area's transportation and ecosystems services infrastructure must be improved to accommodate the proposed uses. Accordingly, the implementing zoning ordinance text and map amendments shall address ecosystem services, including the implementation of low impact development strategies and include requirements that the area not be developed until there are adequate transportation facilities for proposed uses as determined by the requirements of the Oregon Transportation Planning Rule found in OAR 660-012-0060(1)-(3) and Statewide Planning Goal 12, "Transportation" and consistent with Happy Valley Land Development Code requirements.~~

Employment Center. The Employment Center designation is intended to provide for a mix of employment opportunities, located where they are accessible by a variety of transportation modes, including transit service and safe and convenient pedestrian connections. These areas:

1) Provide transition between mixed use centers and residential areas;

2) Provide sites suitable for industrial, office, tech/flex, creative arts, high schools and technical schools (that meet code criteria

for compatibility in employment areas), and other businesses in multi-tenant and (in some cases) multi-story buildings. The walkable character of the surrounding urban environment is a defining element.

3) Support limited retail and services serving their locales;
4) Allow housing as part of mixed use buildings and sites.

Policy 55E: Industrial Campus. The Industrial Campus designation is intended to provide employment opportunities consistent with Metro's Title 4 requirements. The district is Happy Valley's zone for implementing Metro's requirements for Regionally Significant Industrial Areas. . IC districts are intended to:

1) Protect sites for larger scale industrial users, with exceptions for pre-existing parcels and committed areas.
2) Provide industrial land near appropriate transportation facilities, specifically Highway 212/224.
3) Retain land for industrial use, in part by limiting the size and location of new buildings for retail commercial uses (such as stores and restaurants) and retail and professional services that cater to daily customers (such as financial, insurance, real estate, legal, medical and dental offices) to ensure they serve primarily the needs of workers in the area. Non-industrial uses will not exceed 3,000 square feet in a single outlet, or 20,000 square feet in a multi-tenant building. Compatible public facilities will be permitted.
4) Provide for public facilities, parks, education and related uses that are compatible with industrial areas.

Policy 56: Due to rapid growth and staffing constraints, the City of Happy Valley has found it necessary to adopt a number of separate, geographically specific, "comprehensive plans" in the overall land use planning for the city. These include the Rock Creek Comprehensive Plan, the Aldridge Road Comprehensive Plan; the Rock Creek Mixed Employment Comprehensive Plan; and, the East Happy Valley Comprehensive Plan. The following policy sections and sub-sections detail specific policies associated with these "mini comprehensive plans" that have been added to the City's greater Comprehensive Plan policies:

Policy 56A: Generally, the Rock Creek Comprehensive Plan and Aldridge Road Comprehensive Plan will determine land uses and guide the provision of Level 1 facilities and services to land annexed to the City that is located

roughly north of Sunnyside Road, east of 137th Drive and west of 162nd Avenue as follows:

Policy 56A.1 In the Rock Creek Area, Commercial and Office needs will be met through annexation of the existing Sunnyside Village Center, and the planned Mixed Use Employment, Mixed Use Commercial and Mixed Use Residential designations.

Policy 56A.2 A portion of the City's long-term Multiple Family and Small-Lot Single Family Residential needs will be met through annexation of the planned Mixed Use Residential and Village Residential designations in the Rock Creek Comprehensive Plan Area.

Policy 56A.3 Open space opportunities and natural resource areas will be preserved consistent with Metro's Title 3 and City Comprehensive Plan policies.

Policy 56A.4 Medium to Large-Lot Single-Family Residential needs in this sub-area will continue to be met through annexation of the properties within the Aldridge Road Comprehensive Plan Area. Densities within the Aldridge Road Comprehensive Plan Area will match those within the adopted Plan, which may only be altered by a complete replacement of the adopted Plan and subsequent Comprehensive Plan Map/Zoning Map Amendments. Proposed changes to a single parcel or set of multiple parcels that do not include the entire Plan area will not be considered by the City of Happy Valley.

Policy 56B: To plan for the creation of the Rock Creek Employment District.
The Rock Creek Employment District is an approximately 146-acre area located generally northwest of the intersection of Oregon Highway 224 and SE 162nd Avenue. The Area has historically been zoned Exclusive Farm Use ("EFU") pursuant to Clackamas County's acknowledged comprehensive plan and land use regulations while it was outside of the Portland Metropolitan Urban Growth Boundary ("UGB"). This area is subject to the Damascus-Boring Concept Plan ("Concept Plan") required by the site's 2002 inclusion within the UGB. The Concept Plan, approved by Metro and the Happy Valley City Council, established that this area will be an Employment Area implementing Metro Functional Plan Title 4, "Industrial and Other Employment Areas." However, the site is not subject to the Industrial or the Regionally Significant Industrial Area restrictions contained in Title 4.

To implement the Concept Plan vision for this site, the City **adopted the** ~~intends to establish a~~ Rock Creek Mixed Employment ("RC-ME") zoning district consistent with applicable provisions of the Happy Valley Comprehensive Plan and the Metro Functional Plan providing for a variety of employment-generating uses. ~~The City shall implement the District by designating the area with a Rock Creek Mixed Employment comprehensive plan map and zoning map designation.~~

The RC-ME district is intended to:

1) Protect sites for larger scale employment generators, medical centers and senior housing, with exceptions for pre-existing parcels and committed areas;

2) Provide employment land near appropriate transportation facilities, specifically Highway 212/224 and 162nd Avenue;

3) Retain land for employment use, in part by limiting the size and location of new buildings for retail commercial uses. Specifically, retail sales uses may not exceed 60,000 square feet of gross lease area in a single building; or commercial retail uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel; or, on contiguous lots or parcels, including those separated only by transportation right-of-way; and,

4) Provide for public facilities, parks, education and related uses that are compatible with employment areas.

The City acknowledges that the area's transportation and ecosystems services infrastructure must be improved to accommodate the proposed uses. Accordingly, the implementing zoning ordinance text and map amendments shall address ecosystem services, including the implementation of low impact development strategies and include requirements that the area not be developed until there are adequate transportation facilities for proposed uses as determined by the requirements of the Oregon Transportation Planning Rule found in OAR 660-012-0060(1)-(3) and Statewide Planning Goal 12, "Transportation" and consistent with Happy Valley Land Development Code requirements.

Policy 56C: Overall Policy Framework for the East Happy Valley Comprehensive Plan. The following policies were derived from the goals and principles (originally dated July 13, 2004) of the Damascus/Boring Concept Plan. They are adopted as the overall policies guiding growth and livability in the East Happy Valley Comprehensive Plan area (East Happy Valley). Each policy is made up of its introductory goal-oriented statement, followed by the principles to be used during implementation.

Policy 56C.1: East Happy Valley Community

East Happy Valley will be a well-designed community with core mixed-use areas, livable neighborhoods and a range of job opportunities all integrated with the transportation system, natural environment, open space network and public facilities. Community elements will include:

- **a) Neighborhoods as the basic "building blocks" of the community.**
- **b) Mixed-use centers that encourage a sense of community.**
- **c) A diverse range of job opportunities.**
- **d) A mix of uses and transit supportive densities along transit streets.**
- **e) A well-connected network of transportation, land uses and natural resource systems to support public transit, walking and bicycling.**
- **f) An integrated system of open space, parks and natural areas throughout the community, using them as an organizing principle for land uses.**
- **g) Pedestrian-friendly public spaces that accommodate outdoor activity and socialization within both residential and commercial districts.**

Policy 56C.2: East Happy Valley Employment

East Happy Valley will include a diverse range and adequate amount of employment opportunities. Employment lands will provide:

- **a) Reasonable amounts of industrial and employment areas to address the employment needs for those living within the area, as well as to contribute to sub-regional needs.**
- **b) Employment uses accessible by a full range of transportation modes (i.e.-automobile, freight, transit, shared ride, pedestrian and bicycle).**
- **c) A mix of retail, civic, and related uses and services to serve the daily needs of the local community.**
- **d) Employment uses that take advantage of and reflect the natural resource qualities of the land, including forested buttes, salmon bearing streams, agricultural products and beautiful views.**

Policy 56C.3: East Happy Valley Housing
East Happy Valley will provide housing choices for people of all income levels and life stages. Housing will include:

a) A full range of integrated housing types, affordability, and tenancy preferences across the neighborhoods that will fulfill state and regional housing requirements and allow people of all ages and incomes to live in East Happy.

b) A range of housing types that allows community members to continue to live locally throughout all of life's stages (i.e. entry level worker, student, young professional, retired, elderly).

Policy 56C.4: East Happy Valley Transportation
East Happy Valley will have an effective transportation system that provides a range of travel options. The transportation system will include:

a) A coordinated land use and transportation system to support a wide range of convenient and attractive transportation choices, including cars, transit, walking, bicycling and other forms of personal conveyance.

b) A transportation system that is safe for all modes of travel.

c) A well-connected network of arterial and collector streets that adequately serves local travel needs and regional and intrastate access and freight mobility needs.

d) A cost-effective, aesthetic and feasible transportation system.

e) A transportation system designed and located to minimize impacts to natural resources while providing for circulation for all modes of travel.

f) A range of street design types that reinforces a sense of community, leaves the mixed-use areas intact and minimizes impact to neighborhoods to support community livability.

g) An interconnected system of bicycle and pedestrian routes that directly connects to community destinations, with special pedestrian amenities on transit streets. In order to provide options for north south travel in the 172nd Avenue corridor, development on both sides of 172nd will provide a connected and continuous pattern of north-south streets that parallel 172nd Avenue.

h) **Direct and convenient freight access from employment and industrial areas to regional transportation facilities to reduce the potential for traffic intrusions into neighborhoods and rural areas.**

i) **A regional and community transit service in mixed-use areas and on key streets that is supported by street design, a mix of land uses and transit-supportive densities.**

j) **A coordinated transportation system with existing neighboring cities and counties and future planning areas.**

k) **A transportation system in East Happy Valley that is consistent with Happy Valley's overall Transportation System Plan.**

Policy 56C.5: East Happy Valley Natural Resources
East Happy Valley's transition to an urban area over time will also preserve, restore and/or enhance unique areas, natural features, fish and wildlife habitats and special places. As practicable, natural resource implementation will:

a) **Protect, enhance and restore water and air quality by:**

- **Achieving low levels of effective impervious area and high levels of forest protection and restoration;**
- **Protecting steep slopes and undeveloped floodplains;**
- **Protecting, restoring and enhancing riparian and upland habitat;**
- **Preserving, restoring and enhancing headwaters, streams and groundwater systems to achieve clean water;**
- **Maximizing opportunities to protect and enhance natural watershed functions and processes;**
- **Managing stormwater to protect hydrology and natural resources, and promote recycling.**

b) **Protect, restore and enhance ecologically viable fish and wildlife habitat that will sustain the area's native biodiversity and maintain wildlife habitat connectivity within the community and to adjacent natural areas.**

c) **Minimize development impacts on natural hazard areas including floodplains, landslide areas, and steep slopes.**

d) **Provide an ecologically linked system of parks, natural areas, farmland, trails and open spaces for community,**

recreation and natural resource values within the Damascus/Boring area that is connected to the Clackamas River and other natural areas within the region, and ensure adequate coordination with adjacent communities.

e) **Minimize impacts on habitat connectivity, ecological viability, air and water quality, and scenic views when developing an interconnected street, bicycle, pedestrian and transit system.**

f) **Maximize opportunities to protect open spaces that can provide multiple public benefits such as stormwater facilities, parks, trails and utilities without compromising hydrology, habitat, or ecological functions.**

g) **Seek opportunities to incorporate green street designs and green development practices into the community design and infrastructure plans to minimize negative impacts of development on the environment.**

h) **For this policy, references to steep slopes shall be interpreted as follows: (1) slopes greater than 25% shall be protected from development, but shall be eligible for density transfers; (2) slopes 15-25% shall be protected through a combination of clustering, transfer of development rights, low density development and other techniques that balance conservation and development rights.**

i) **Organize land uses to relate to green design elements, including:**

- **Natural areas as focal points**
- **Protection of the areas of Scouter's Mountain that are 15% and greater in slope. Transfer of density from area's 15% and steeper may result in clustering in other areas that exceed base zoning – this technique is allowed and encouraged.**
- **Protection and restoration of vegetation along streams Low impact building design and infrastructure**

j) **Use the Damascus/Boring Concept Plan's Parks and Schools diagram to guide park and school locations, and, master planning for parks, schools, trails, and greenways. Coordinate development with parks and schools facility plans.**

Public or private parks, with usable open space, should be within walking distance of all homes.

k) **Low impact development practices and infrastructure will be allowed and encouraged in East Happy Valley. The City will be proactive in proposing low impact public works projects.**

Policy 56C.6: East Happy Valley Public Facilities
Infrastructure in East Happy Valley will provide adequate and coordinated public facilities and services, including sewer, water, storm drainage, police, fire, parks and schools. Happy Valley supports:

a) **Public education facilities in the neighborhoods and throughout the community.**
b) **Public park, recreation and open space facilities.**
c) **Police, fire and emergency facilities and services.**
d) **Cost-effective and feasible sanitary sewer and public water facilities.**
e) **Cost-effective and feasible surface water conveyance, treatment and storage.**
f) **Recycling of storm water and gray water.**
g) **Expansion of the Metro Greenspaces effort in East Happy Valley to preserve and link regionally significant open space areas, parks and regional trails.**
h) **Minimizing the amount of land needed and reduce capital and operating costs by using land as efficiently as possible by collocating compatible public facilities.**
i) **Coordinating with the private utilities to meet the need for adequate private utilities (telephone, electrical, natural gas, fiber optic cable, etc).**

Policy 56C.7: Balance of Urban Development and Rural Landscape Character
Development in East Happy Valley will balance the creation of a great urban community with respect for rural landscape features. East Happy Valley will:

a) **Allow many of the uses and features that provide the existing character and identity, such as visual open space, wildlife habitat, farms (including nurseries, small scale farms and demonstration farms), and woodlots to operate until such time as converted to urban uses.**
b) **Protect significant views and historic and cultural heritage sites, when so designated in the comprehensive plan.**

c) Provide land uses and public facilities designed to be compatible with natural features, using them to provide separation, transition and underlying form for the built environment.

d) Ensure that slope areas (15% and greater) are protected in balance with reasonable development rights for property owners.

e) Organize development and protection according to the basic tenets of Landscape Based Place Making in the Damascus/ Boring Concept Plan: (1) Lands steeper than 25% and significant natural resource areas shall be protected from development via the City's steep slopes overlay, wetland buffers and riparian corridor buffers; (2) Lands between 15-25% slope shall be protected through a combination of clustering, transfer of development rights, low density development and other techniques that balance conservation and development rights; and (3) Lands less than 15% slope shall be available for urban uses.

f) The park, trail, and school system will be linked and coordinated. This will include linkages to ensure local trails connect to the regional trail network.

Policy 56C.8: Urban Design
East Happy Valley will reflect the state of the art of urban design principles and practice, built from centuries of experience, and applied to a new 21st century community. Implementation will include:

a) An overall community design and form that is coordinated with the larger systems of the Portland Metropolitan area.

b) The design of a new community that fits the contours and form of the unique Damascus/Boring/East Happy Valley landscape, and honors local history, climate, ecology, and building form.

c) An overall urban form that is organized into a logical pattern of town center(s), neighborhood centers, corridors, neighborhoods and industrial and employment districts.

d) Great vistas and views at many scales and forms - ranging from the broad landscape vistas, to city views terminated on civic buildings, to the tree-lined neighborhood blocks.

e) **Designs that use green spaces and natural features as ways of organizing and connecting physical elements for the community.**

f) **Well designed streets that serve as part of the public realm for people, as well as transportation corridors for vehicles.**

g) **Compact, pedestrian-friendly, and human-scale places that support comfortable walking to ordinary activities and interaction with neighbors.**

h) **The creation of excellent civic buildings and gathering places.**

i) **Planned transitions (a.k.a. a "transect") from urban core(s) to neighborhoods to rural and resource areas.**

j) **A plan that sustains and enhances and the economic, ecological, civic/financial and social fabric of Damascus/Boring community in the long term.**

k) **Implementation of "Happy Valley Style" design guidelines.**

l) **A varying of building scale and land use along arterial streets to create interest, variety, and an avoidance of the repetition of land uses and building types.**

m) **Consider designating gateways for entries to the City of Happy Valley.**

n) **Important cultural and natural names, places, and themes will be used as East Happy Valley urbanizes. Historic or landscape related names should be used for the street, place and neighborhood names.**

Goal #8 – To satisfy the recreational needs of the citizens of the state and visitors.

~~Policy 56:~~ ~~To satisfy the recreational needs of the citizens of the state and visitors~~

Policy 57: To satisfy the recreational needs of the citizens of the state and visitors**, and to** ~~To~~ provide additional park and outdoor recreational facilities in order to meet recreational needs of residents.

Policy 58: To enhance and encourage the use of the area's recreational facilities and opportunities.

Policy 59: To encourage county development of additional recreation areas.

Policy 60: To encourage creation of a green-belt recreation area in conjunction with the natural areas for open space, bikeways and trails.

Policy 61: To continue the current park improvement program.

Policy 62: To encourage multiple use of schools and school facilities for public and recreational uses.

Goal #12 – To provide and encourage a safe, convenient and economic transportation system for the planned growth and ultimately for full urban development of the City.

Policy 63: ~~Deleted by Ordinance #320, October 4, 2005~~
Happy Valley will coordinate with Clackamas County in the adoption of "concurrency" standards for development served by Clackamas County roadways and Oregon Department of Transportation (ODOT) state highways.

Policy 64: To develop good transportation routes (vehicular, pedestrian, bicycle, etc.) between residential areas (and major activity centers both inside and outside the City) with street interconnectivity and neighborhood livability issues being the paramount consideration.

Policy 65: To classify all roadways within the City and adopt the vehicular circulation system set forth in the City's current Transportation System Plan or as amended by additional studies and information.

Policy 66: To review and revise traffic patterns and traffic volumes by employing the city Traffic Safety and Speed Control Standards. Review and revise traffic patterns and traffic safety standards and traffic control devices as traffic volumes change in order to provide a safe transportation and livable system and to improve the vehicle-pedestrian relationship and to improve overall neighborhood connectivity and livability.

Policy 66A: Existing streets which are upgraded and new streets which are constructed in response to new development in the city should be planned and designed to limit noise impacts, spread anticipated traffic volumes throughout available routes, maintain, preserve or improve aesthetics, and proved maximum potential for safety.

Policy 66B: Streets with high volume traffic should not bisect neighborhoods.

Policy 66C: Collector streets should be designed to keep traffic under 25 mph and minimize traffic impact.

Policy 66D: The main goal for a neighborhood street is to provide a safe, inter-connected transportation system while protecting the neighborhood and ensuring livability by controlling noise, traffic, speed, and number of vehicles.

Policy 66E: Neighborhood streets should reflect the concept that the street is an extension of the homeowner's yard.

Policy 66F: Employing street trees on both sides of the roadway and clustering/grouping will give the illusion of mini-parks.

Policy 66G: Traffic noise and speed can be minimized by employing tight radius curves, circles, and planters within the roadway and speed humps.

Policy 67: To discourage high-volume, high-speed transportation routes near schools, parks and recreation facilities through the City.

Policy 68: To encourage and support the development and increased use of public mass transit and the increased availability of bus transportation routes serving the City and its environs.

Policy 69: When a conflict exists between the objective to protect neighborhoods and the objective to maintain an efficient transportation system can be in conflict with one another, however, priority should be given to the livability and protection of the neighborhoods.

Policy 70: To encourage the development of bike paths and pedestrian walkways throughout the city in accordance with OAR and the implementation of the County bikeway route through the City.

Goal #11 – To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for the planned growth and ultimately for full urban development of the City.

Policy 71: To complete a Public Facilities Plan as required by OAR 660, Division 11 and provide public facilities in a timely, orderly and efficient manner to the City.

Policy 72: When local or other sources of public funding are available for the installation and/or improvement of facilities and services, existing areas of the City which are experiencing on-going problems will receive priority funding and scheduling for necessary work.

Policy 73: The City will continue to seek federal funding for sewer projects and will attempt to maintain its standing on the EOC priority list.

Policy 74: To require new developments to provide Level 1 public facilities and services which are consistent with the Leveled Growth Management section of this Plan and are required by City Ordinances.

Policy 75: To provide public water and sewer to all areas within the city limits in accord with the appropriate facilities plans adopted by Sunrise Water Authority and Clackamas County Service District #1 respectively.

Policy 76: Deleted by Ordinance #374, July 1, 2008

Policy 77: New individual onsite subsurface sewage disposal systems may be installed at any time to replace an existing but failing system within an existing lot of record, but may not be utilized to serve parcels or lots created by any land division, or to serve any new non-residential development. However, if public sanitary sewer service is available within 500 feet of any property line of an existing lot of record containing an existing failing system, and capable of serving the site of the failing system with a regular or gravity hookup, sanitary sewer service shall be extended to the subject site in lieu of utilization of a new replacement individual onsite subsurface sewage disposal systems.

Policy 78: Deleted by Ordinance #374, July 1, 2008

Policy 79: To continue to support the collection of solid waste through private operators.

Policy 80: To monitor the adequacy of solid waste collection service and to communicate with private operators when problems arise.

Policy 81: Solid waste disposal is a regional concern requiring regional solutions. The City of Happy Valley recognizes Metro's responsibility and authority to prepare and implement a solid waste management plan, supports the Metro "Procedures for Siting Sanitary Landfill" and will participate in these procedures as appropriate.

Policy 82: To promote the construction of a storm drainage system, with highest priority given to the drainage areas suffering the most sever problems.

Policy 83: No facilities and services under the City's jurisdiction will be extended beyond the city limits without due justification until all areas within the City are provided with service. The Facilities Plan requires however, that the planning boundary will be the drainage basin boundary.

Policy 84: To promote the maintenance and improvement of the natural storm drainageways, and the construction of new systems when required.

Policy 85: To require new developments to limit storm drainage runoff outside project boundaries or provide a storm drainage and collection system within the project in compliance with the City's Storm Drainage Ordinance.

Policy 86: Until the City's Facilities Plan is completed and the economic analysis and assessment policies are formulated by Clackamas County Service District #1, the City shall evaluate on a case by case basis those P.U.D's , subdivisions, land partitions or building permit applications which can be provided with sewer service from existing sewer lines adjacent to the City. Their approval during this interim period shall be based on the provisions of the City's Land Development Ordinance, Growth Management Policies, and agreements for the payment of anticipated public facilities assessments.

Policy 87: To develop a Capital Improvement Program for facilities and services that will meet the planned urban level of demand. Funding for public facilities and services at a level sufficient to meet demand will be obtained from federal, state and local grant sources, formation of local improvement districts, serial levies, bonded indebtedness, and other sources as may be feasible and appropriate.

Policy 88: Ensure continued maintenance of city streets.

Policy 89: To encourage or maintain provisions for adequate and/or expanded dog control, litter and nuisance enforcement.

Policy 90: The City of Happy Valley will cooperate with agencies involved in providing and coordinating public services, and consider the pooling of City resources with various public agencies to provide needed facilities and services within the community.

Policy 91: The City of Happy Valley recognizes and assumes its portion of the responsibility for participation in the operation, planning and regulation of waste water systems and designated in METRO's Waste Treatment Management Component. In addition, Happy Valley supports METRO's role in the overall responsibility for all waste treatment management.

Goal #13 – To conserve energy; land and uses developed on the land, shall be managed and controlled so as to maximize the conservation of all forms of energy based upon sound economic principles.

Policy 92: To encourage and promote the recycling of older structures.

Policy 93: To revise the Land Development Ordinance to protect sun rights and encourage utilization of solar energy, natural vegetation and new landscaping to reduce summer cooling needs.

Policy 94: To encourage new residential site design, which allows the orientation of structures to take maximum advantage of solar energy potential. Access to sunlight will be safeguarded.

Policy 95: To encourage the innovative use of alternative energy sources such as solar, wind, etc., on all existing and new residential developments.

Policy 97: The City shall permit development on vacant buildable lands at its base density levels or less, or at density levels which exceed base density levels as permitted by Title 16 of the City's Municipal Code. Level 1 facilities and services shall be defined as those which are absolutely critical to site development proposals, and are as follows:

- sanitary sewer
- water supply
- storm drainage
- fire protection
- streets and roads

Policy 98: In any area of the City where Level 1 services are programmed but are not scheduled for installation and availability for more than one (1) year, a project of phased development may be proposed which will include future bonuses. However, any and all bonuses may be planned for, but shall be taken only when Level 1 services are available to the site. Initial phase (s) of the project may not exceed density limitations established by the Base Comprehensive Plan. All planning for the project must be in accordance with appropriate sections of the current Land Development Ordinance.

Policy 99: Any and all development within the city shall be subject to participation in the provision of Level 2 facilities and services which are essential to the development of the City as a whole, and shall include:

- schools
- police protection
- parks and recreation
- public transit
- vector control
- city administrative services

However, per the requirements of ORS 195.110(11) - notwithstanding any other provision of state or local law, school capacity shall not be the sole basis for the approval or denial of any residential development application, unless the application involves changes to the local government comprehensive plan or land use regulations.

~~Policy 99A: Comprehensive Plan Map Amendments/Zone Map Amendments that involve a change to a land use district that allows residential development as either a permitted or conditional use, shall provide either evidence of adequate school district capacity for the number~~

~~of students possible under the proposed zone, based on the most dense development scenario provided by said land use district or, shall otherwise demonstrate a recommendation of support from the affected school district.~~

~~99A.1 Within any adopted Comprehensive Plan Map/Zoning Map Area, parcels which have not annexed to within the city limits, and/or parcels which have a land use district that may accommodate residential development, but have not provided evidence of adequate school district capacity or otherwise demonstrated a recommendation of support from the affected school district, shall be illustrated within the City's Comprehensive Plan Map/Zoning Map with a zoning designation color that is "shaded" or "hatched." Said parcels will not be allowed legislative implementation of the underlying Comprehensive Plan Map/Zoning Map land use district (removal of shading/hatching) until annexation and demonstration of adequate school district capacity or otherwise demonstrating a recommendation of support from the affected school district. If supported by adequate school district capacity analysis or demonstrated support, said legislative implementation of the land use district may occur at the time of annexation, or may occur at any time after annexation of parcels to within the city limits.~~

Policy 100: The funding of improvements, extension of construction Level 1 facilities and services within the incorporated limits of the city shall be the responsibility of those whose land use activities caused such improvement, extension or construction to become necessary. Funding sources may include but are not limited to creation of a local improvement district (LID); outside funding or grants in aid; direct source payment with or without agreement for future reimbursement by other property owners who may utilize the facility or service; other sources as may be identified.

Policy 101: Waivers of remonstrance for all future improvements of Level 1 facilities and services shall be required for all approved minor partitions, major partitions, subdivisions and P.U.D.'s. The City shall retain these waivers for use when necessary.

Policy 102: When, as the coordinator of land use activities and service provision to development areas, the City must make determinations regarding fulfillment of the Growth Management Policies and Procedures, the City shall consider recommendations provided by service providers and other affected agencies, including but not limited to the following:

- Clackamas County Service District No. 1 (CCSD#1)
- Sunrise Water Authority
- Clackamas Fire District No. 1 (CFD#1)
- Clackamas County, Department of Transportation and Development (DTD)
- North Clackamas School District No. 12 (NCSD#12)
- North Clackamas Parks & Recreation District (NCPRD)
- Tri-Met
- City of Portland

- City of Gresham
- City of Damascus

Any determination shall be within the parameters of the providers' or agency's own standards, criteria, requirements or plans. The service providers' decision shall be treated as a rebuttable presumption as to the ability of that provider to provide an acceptable level of service. However, the evidence that can rebut said decision must be compelling evidence based upon objective data and the agencies' standards-criteria-requirement or plans in order to controvert the determination of the service provided.

Policy 103: No development of any properties shall be permitted which will interfere or prevent the extension of any Level 1 facilities or services.

Happy Valley Transportation System Plan

Prepared for

City of Happy Valley

Prepared by

DKS Associates
TRANSPORTATION SOLUTIONS




In association with

Real Urban Geographics

Draft December 2008

EXHIBIT K

DKS Associates
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1. Summary

The current Happy Valley Transportation System Plan (TSP) was adopted February 21, 2006. Since that time, the City has experienced significant growth in both population and area. This growth area is primarily located on the east and south portions of the City. The primary purpose of this update is to address these changes, with a focus on:

- Ensuring that the transportation system plans in East Happy Valley can adequately serve planned citywide growth and nearby major growth areas, including Pleasant Valley, Springwater and Damascus.
- Confirming consistency with the latest Regional Transportation Plan and Statewide Planning Policies.

This plan update is aimed at fulfilling Transportation Planning Rule (TPR) requirements for comprehensive transportation planning in the cities of Oregon, and presents the investments and priorities for the Pedestrian, Bicycle, Transit, and Motor Vehicle systems along with new transportation programs to correct existing shortfalls and enhance critical services. For each travel mode, a Master Plan project map and list are identified to support the City's transportation goals and policies. Projects that are reasonably expected to be funded over the next 20 years were identified and are referred to as Action Plans.

The TSP update provides specific information regarding transportation needs to guide future transportation investment in the City and determine how land use and transportation decisions can be brought together beneficially for the City and is based on needs required to meet transportation demand based on 2025 future needs.

Plan Committees

The plan was developed in close coordination with Happy Valley city staff, citizen representatives and key representatives from the surrounding communities. Two formal committees were formed to guide in the plan development:

- **Technical Advisory Committee** – Agency staff from Metro, the Oregon Department of Transportation, TriMet and Clackamas County participated in reviewing the technical methods and findings of the study. Four meetings were held throughout the planning process. The focus of this group was on consistency with the plans and past decisions in adjoining jurisdictions, and consensus on new recommendations for the transportation system.
- **Citizen Advisory Committee** – Happy Valley citizen volunteers served as the representatives for the community. Five meetings were held throughout the planning process to review interim study findings and policy issues that benefited from their direction.

The committees met regularly through the plan development process to update the goals and policies, review interim work products, assist in developing and ranking transportation solutions, and to refine master plan elements to ensure consistency with community goals.

The Happy Valley Transportation System Plan process included the following steps:

- Inventory/Data Collection to a year 2006 baseline
- Update Goals and Policies
- Evaluate Existing Conditions and Future Travel Needs Through Forecasting
- Update Needs by Mode and Consider Alternatives
- Refine Improvement Lists to Mitigate Deficiencies by Mode For 2025 Conditions
- Determine Planning and Cost Estimates of Improvements
- Identify Financing Sources
- Produce a draft Transportation System Plan

Plan Organization

This document is divided into ten chapters and a separate Technical Appendix. The title and focus of each chapter is summarized below:

Chapter 1: Summary – This chapter provides a brief overview of the plan recommendations and presents the estimated funding needed to implement it.

Chapter 2: Goals and Policies – This chapter presents the recommended goals and policies applied to develop implementing measures for each of the travel modes.

Chapter 3: Existing Conditions – This chapter examines the current transportation system in terms of the built facilities, how well they perform and comply with existing policies, and where current deficiencies exist.

Chapter 4: Future Needs and Improvements – This chapter presents the details of how the City of Happy Valley is expected to grow over the next 20 years, and how travel demands on the city and regional facilities will change from general growth in the Metro and nearby areas.

Chapter 5: Pedestrian Plan – This chapter presents plan recommendations to enhance pedestrian facilities and focus new improvements in areas with the highest concentration of activity.

Chapter 6: Bicycle Plan – This chapter presents plan recommendations to enhance bicycle facilities and focus new improvements in areas with the highest concentration of activity.

Chapter 7: Transit Plan – This chapter makes recommendations to be considered by TriMet in their future enhancements to transit services.

Chapter 8: Motor Vehicle Plan – This chapter presents plan recommendations to provide adequate mobility and access to the city, county and state facilities as travel demands grow to 2025 levels. This chapter also recommends new street design standards, access spacing standards, functional class designations and other programs to monitor and manage travel demand.

Chapter 9: Other Modes Plan – This chapter discusses transportation issues related to rail, air and water transportation.

Chapter 10: Financing and Implementation – This chapter presents the complete estimated revenues and costs for the transportation projects and programs developed in the plan. New funding alternatives are presented to bridge the gaps between the two.

Goals and Policies

The goals and policies established in the 2006 TSP were adopted to guide transportation system development in Happy Valley. Goals are defined as brief guiding statements that describe a desired result. Policies associated with each of the individual goals describe the actions needed to move the community in the direction of completing each goal.

In addition to retaining and refining previously adopted goals and policies that are still applicable, new goals and policies have been incorporated into the TSP update to expand the vision for the City's transportation system and meet recent changes to state and regional transportation plan policies and regulations. The goals and policies of this TSP are not prioritized and are presented in Chapter 2. These goals and policies were applied in the development of this Transportation System Plan to develop implementing measures for each of the travel modes applied in the Happy Valley TSP study area.

Transportation Plans

The Happy Valley TSP update identifies projects and programs needed to support the City's goals and policies and to serve planned growth over the next 20 years. This document presents the recommended investments and priorities for the Pedestrian, Bicycle, Transit, and Motor Vehicle systems along with new transportation programs to enhance critical transportation services. For each travel mode, a Master Plan project map and list are identified to support the city's transportation goals and policies. Projects that are reasonably expected to be funded over the next 20 years were identified and are referred to as Action Plans. The following sections summarize the plan for each mode.

Pedestrian Plan

The existing pedestrian system in Happy Valley has significant needs. Sidewalks are provided in many newer residential neighborhoods, but are limited on arterials and collectors in older areas creating poor pedestrian connectivity throughout the city. Gaps within the sidewalk and trail system discourage pedestrian travel and put pedestrians at an increased safety risk by requiring them to share the roadway with vehicles in certain locations.

Based on these needs, a Pedestrian Master Plan was developed and is shown in Figure 5-1. The updated Pedestrian Master Plan costs are estimated to be $17.1 million. The Pedestrian Master Plan will require incremental implementation. As development occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, projects on the Master Plan will be integrated into project development.

The pedestrian goals and input from the CAC and TAC were reviewed to create a Pedestrian Action Plan, which are projects that are reasonably expected to be funded by the year 2025. The highest ranking City projects that are reasonably expected to be funded were combined with projects from other agencies identified in the RTP Financially Constrained scenario to create the project list shown in Table 1-1.

Table 1-1: Pedestrian Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue North Sidewalks*	Construct sidewalks on both sides of the roadway from Sunnyside Road to Clatsop Street. Provide signalized pedestrian crossings at all traffic signals.	Joint SDC Fund	2021-2025	$2,690
122nd/129th Avenue*	Construct sidewalks on both sides of the street from Sunnyside Road to King Road	Joint SDC Fund	2016-25	$780
162nd Avenue Sidewalks	Construct sidewalks on both sides of the roadway from Clatsop Street to Hwy 212.	Joint SDC Fund	-	$2,810
Clatsop Street Sidewalks	Construct sidewalks on both sides of the roadway from 162nd Ave to 172nd Ave.	Joint SDC Fund	-	$420
Ridgecrest Road Sidewalks	Construct sidewalks on the south side from 132nd Ave to Plover Dr.	Happy Valley	2010-2020	$220
132nd Avenue Sidewalks	Construct sidewalks on the east side of the roadway from King Road to Ridgecrest Road.	Happy Valley	2010-2020	$80
145th Avenue Sidewalks	Construct sidewalks on the west side of the roadway from King Road to Purple Finch Loop.	Happy Valley	2010-2020	$180
King Road Sidewalks	Construct sidewalks on the north side of the roadway from 132nd Avenue to 175 feet west of Regina Court	Happy Valley	2010-2020	$130
King Road Sidewalks	Construct sidewalks on the north side of the roadway Rolling Meadows Drive to 145th Avenue	Happy Valley	2010-2020	$50
			Total Pedestrian Project Costs	**$7,360**

* Project identified in the 2004 Federal Regional Transportation Plan Financially Constrained scenario.

Bicycle Plan

The existing bike lane system on arterial and collector streets in Happy Valley does not provide adequate connections from neighborhoods to schools, parks, retail centers, or transit stops. Continuity and connectivity are key issues for bicyclists and the lack of facilities (or gaps) cause significant problems for bicyclists. Without connectivity of the bicycle system, this mode of travel is severely limited.

A Bicycle Master Plan (Figure 6-1) was developed based on these identified needs. The updated Bicycle Master Plan costs are estimated to be $30.7 million. The Bicycle Master Plan will require incremental implementation. As development occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, projects on the Master Plan will be integrated into project development.

The bicycle goals and input from the CAC and TAC were reviewed to create a Bicycle Action Plan, which are projects that are reasonably expected to be funded by the year 2025. The highest ranking City projects that are reasonably expected to be funded were combined with projects from other agencies identified in the RTP Financially Constrained scenario to create the project list shown in Table 1-2.

Table 1-2: Bicycle Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue North Bike Lanes*	Construct bike lanes on both sides of the roadway from Sunnyside Road to Clatsop Street.	Joint SDC Fund	2021-2025	$1,920
122nd/129th Avenue*	Construct bike lanes on both sides of the street from Sunnyside Road to King Road	Joint SDC Fund	2016-25	$640
162nd Avenue Bike Lanes	Construct bike lanes on both sides of the roadway from Monner Road to Clatsop Street and Sunnyside Road to Highway 212.	Joint SDC Fund	-	$2,430
Clatsop Street Bike Lanes	Construct bike lanes on both sides of the roadway from 162nd Avenue to 172nd Avenue.	Joint SDC Fund	-	$300
145th/147th Avenue Bike Lanes*	Construct bike lanes on both sides of the roadway from Clatsop Street to Monner Road.	Metro/Other	2010-2015	$1,040
162nd Avenue Bike Lanes*	Construct bike lanes on both sides of the roadway from Monner Road to Sunnyside Road.	Metro/Other	2016-2025	$390
			Total Bicycle Project Costs	**$6,720****

* Project identified in the 2004 Federal Regional Transportation Plan Financially Constrained scenario.
**These project costs are included in a motor vehicle action plan.

Transit Plan

TriMet is the regional transit provider for the Portland metro area and operates three bus routes within Happy Valley today, #155, #156, and #157 (see Figure 7-1). A need for improvements to the existing transit facilities was identified to support the future household and employment growth within the study area. Based on these needs, a Transit System Master Plan was created that is shown in Figure 7-2.

A Transit Action Plan was developed to identify projects that are reasonably expected to be funded by the year 2025. The projects that are reasonably expected to be funded were combined with projects from other agencies identified in the RTP Financially Constrained scenario to create the project list shown in Table 1-3.

Table 1-3: Transit Action Plan Projects

Project	Description	Cost ($1,000s)
Bus Stop Enhancements	Coordinate with TriMet to provide transit stop amenities including bus shelters and street lighting at all transit stops.	-
RTP Designated Major Transit Stops	To meet RTP requirements, amend development code regulations to require new retail, office, and institutional buildings on sites at major transit stops to: ▪ Locate buildings within 20 feet of or provide a pedestrian plaza at the major transit stops. ▪ Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site. ▪ Provide a transit passenger landing pad accessible to disabled persons (if not already existing to transit agency standards). ▪ Provide an easement or dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider. ▪ Provide lighting at a transit stop (if not already existing to transit agency standards).	$0
Transit Corridors	Direct growth to increase the density of development along transit routes in the study area in an effort to support regional transit service goals.	-
	Transit Projects to be Funded by the City	**$0**

- These projects are under the jurisdiction of, and/or will be funded by, TriMet.

Motor Vehicle Plan

The TSP Update forecasted 2025 growth to identify motor vehicle system needs in Happy Valley. Without a significant investment in Transportation System Management (TSM), Travel Demand Management (TDM), and roadway improvements, several key facilities in the City would operate with congested conditions in the future.

The following sections summarize the recommended motor vehicle system plans that meet the demands of future growth and comply with local and regional planning requirements.

Transportation System Management (TSM)

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system by seeking solutions to immediate transportation problems, finding ways to better manage transportation, maximizing urban mobility, and treating all modes of travel as a coordinated system. TSM measures focus primarily on region wide improvements, however there are a number of TSM measures that are recommended for use in Happy Valley, which include:

Intelligent Transportation Systems (ITS): ITS focuses on increasing the efficiency of existing transportation infrastructure, which enhances the overall system performance and reduces the need to add capacity (e.g. travel lanes). Efficiency is achieved by providing services and information to travelers so they can (and will) make better travel decisions and to transportation system operators so they can better manage the system and improve system reliability.

Clackamas County has prepared an ITS plan for the urbanized area of the County. The Clackamas County ITS Plan[1] has identified arterial signal control ITS projects on major streets throughout the county. Sunnyside Road and 122nd/129th Avenue within the TSP study area have been identified for planned fiber optic cable and closed-circuit cameras at several major intersections. In order to support future ITS projects including traffic signal operations, the City of Happy Valley and Clackamas County should require the installation of 3 inch conduit along arterial and selected collector roadways during roadway improvement projects. ITS projects can require additional fiber optic cable to serve the new equipment along a roadway. A 3 inch conduit would ensure adequate wiring capacity to accommodate future ITS projects.

Neighborhood Traffic Management (NTM): Happy Valley has neighborhood traffic management elements in place, such as speed humps, on streets within the study area. The city will consider additional traffic calming measures as appropriate and work with the community to find the traffic calming solution that best meets their needs and maintains roadway function. Table 8-1 lists common NTM applications and suggests which devices may be supported by the Happy Valley Fire Department. Neighborhood traffic management projects will include coordination with emergency agency staff to assure public safety.

Access Management: Access Management is a broad set of techniques that balance the need to provide efficient, safe and timely travel with the ability to allow access to individual properties. Proper implementation of access management techniques will guarantee reduced congestion, reduced accident rates, less need for roadway widening, conservation of energy, and reduced air pollution.

[1] Clackamas County ITS Plan, DKS Associates, Inc. and Zenn Associates, February 2003.

Access management is the control or limiting of vehicular access on arterial and collector facilities to maintain the capacity of the facilities and preserve their functional integrity. Access management strives to strike a balance between maintaining the integrity of the facility and providing access to adjacent parcels. Numerous driveways can erode the capacity of arterial and collector roadways. Preservation of capacity is particularly important on higher volume roadways for maintaining traffic flow and mobility. Whereas local and neighborhood streets function to provide access, collector and arterial streets serve greater traffic volume. Numerous driveways or street intersections increase the number of conflicts and potential for collisions and decrease mobility and traffic flow. Happy Valley, as with every city, needs a balance of streets that provide access with streets that serve mobility.

Several access management strategies were identified to improve local access and mobility in Happy Valley:

- Develop specific access management plans for major and minor arterial streets in Happy Valley to maximize the capacity of the existing facilities and protect their functional integrity.
- Work with land use development applications to consolidate driveways where feasible.
- Provide left turn lanes where warranted for access onto cross streets.
- Construct raised medians to provide for right-in/right-out driveways as appropriate.

New development and roadway projects located on City street facilities will meet the recommended access spacing standards summarized in Table 1-4. Access points include public streets, private streets, and private commercial or residential driveways. A variation to the access spacing standards may be granted in areas with limited property frontage and/or environmental constraints. Any variation to these spacing standards will require an access management plan to be approved by the City engineer. The maximum access spacing listed in this table is consistent with Metro[2].

Table 1-4: Access Spacing Standards for City Street Facilities

Street Facility	Maximum Access Spacing	Minimum Access Spacing with Full Access	Minimum Access Spacing with Limited Access*
Major Arterial	-	1,000 feet	500 feet
Minor Arterial	-	600 feet	300 feet
Collector	530 feet	400 feet	200 feet
Neighborhood	530 feet	-	-
Local	530 feet	-	-

Note: Intersection and driveway spacing measured from centerline to centerline.
* Limited Access – Vehicles are restricted to right-in/right-out turn movements. In some cases, left-in turn movements may be permitted based on City engineer approval.

[2] Metro Regional Transportation Plan, 2000.

Traffic Signal Spacing: Traffic signal spacing standards have been established as part of this Happy Valley TSP update. A minimum traffic signal spacing of 1,000-feet is required for major arterial, minor arterial and collector facilities. A variation to the traffic signal spacing standard may be granted in areas with limited property frontage and/or environmental constraints. Any variation to the traffic signal spacing standard will require the approval of the City engineer.

Local Street Connectivity: Much of the local street network in Happy Valley is built but is not well connected. Multiple access opportunities for entering or exiting neighborhoods are limited. There are a number of locations where neighborhood traffic is funneled onto one single street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes that impacts residential frontage.

A Local Street Connectivity Plan is shown in Figure 8-2. In most cases, the connector alignments are not specific and are aimed at reducing potential neighborhood traffic impacts by better balancing traffic flows on neighborhood routes. To protect existing neighborhoods from potential traffic impacts of extending stub end streets, connector roadways will incorporate neighborhood traffic management into their design and construction. All stub streets will have signs indicating the potential for future connectivity.

Additionally, new development that constructs new streets, or street extensions, shall meet the following connectivity standards:

- Provide full street connections with spacing of no more than 530 feet between connections except where prevented by barriers.
- Provide bike and pedestrian access ways with spacing of no more than 330 feet except where prevented by barriers.
- Limit use of cul-de-sacs and other closed-end street systems to situations where barriers prevent full street connections
- Include no close-end street longer than 200 feet or having no more than 10 dwelling units.
- Include street cross-sections demonstrating dimensions of ROW improvements, with streets designed for posted or expected speed limits.

The arrows shown on Figure 8-2 indicate priority for local and neighborhood connections only. Topography and environmental conditions limit the level of connectivity in several areas of Happy Valley. Other stub end streets in the City's road network may become cul-de-sacs, extended cul-de-sacs or provide collector or arterial connections. Pedestrian connections from the end of any stub end street that results in a cul-de-sac shall be considered mandatory as future development occurs. The goal would continue to be improved city connectivity for all modes of transportation.

Functional Classification: The proposed functional classification was developed following detailed review of the existing Happy Valley TSP, Clackamas County TSP and the Rock Creek Plan functional classification. A proposed roadway system has been developed within the planned growth areas of the TSP study area. The proposed functional classification of these roadways is shown in Figure 8-3.

The following proposed Happy Valley TSP functional classifications are inconsistent with the Clackamas County TSP and/or the Rock Creek Plan.

- 172nd Avenue changed from a minor arterial (County TSP) to a major arterial
- Monner Road changed from a local street (County TSP) to a neighborhood street

- 162nd Avenue (north of Sunnyside Road) changed from a local street (County TSP) to a collector street
- 152nd Avenue (north of Sunnyside Road) changed from a collector (County TSP and Rock Creek Plan) to a minor arterial
- Valley View Terrace changed from neighborhood street (Happy Valley TSP) to a collector street

The following revisions are recommended to the current Happy Valley TSP:

- Hagen Road changed from a neighborhood street to a local street.

Roadway Cross-Section Standards: The City of Happy Valley has current standards for street cross sections that apply citywide to residential, neighborhood, collector and minor arterial roadways. The TSP update includes several revisions and additions to the street cross-section standards for the East Happy Valley area. Alternative collector and local cross-sections have been developed to allow for flexibility in design with an emphasis on streetscape elements. A hillside collector cross-section was developed for 162nd Avenue and the east-west collector along the base of Scouter Mountain with a 12 foot path on the downhill side of the roadway and a narrower width to reduce environmental impacts. A collector cross-section with on-street parking was developed for the newly planned area east of 162nd Avenue to provide a neighborhood streetscape. Collector and local cross-sections were developed for roadways along commercial and industrial zoned parcels to provide an appropriate streetscape. Cross-sections for private streets and alleyways have also been added. The recommended roadway cross-sections are shown in Figures 8-4 through 8-8. The proposed street system standards for each functional classification are summarized in Table 1-5.

Intersection Performance Standards: Policy 5a establishes minimum intersection operating standards to be maintained for the City of Happy Valley. The City shall utilize these standards to evaluate land use actions and proposed mitigations. All public facilities shall be designed to meet these standards.

- All signalized intersections shall operate at level of service D and V/C ratio of 0.90 or better during the peak hours of analysis. Individual movements must meet level of service E and a V/C ratio of 1.0.
- All roundabout intersections shall operate at level of service D or better during the peak hours of analysis. Each approach must meet level of service E and a V/C ratio of 0.85.
- All unsignalized two-way stop controlled intersections shall operate at level of service E or better (based on average approach delay) for all side street approaches during the peak hours of analysis.
- All unsignalized all-way stop controlled intersections shall operate at level of service D or better based on average intersection delay during the peak hours of analysis.

Table 1-5: Street System Standards

Functional Classification	Desirable Maximum Volume	Right-of-way	Paved Width	Number of Lanes	Sidewalks	Bike Lanes	Parking	Landscaping	Access Limitations*
Major Arterial	-	96 feet	74 feet	5	6 feet	6 feet	none	5 foot planting strip with street trees on both sides. 10 foot planting strip (within 14 foot median area) with street trees in median.	No direct access allowed for new dwelling units fronting roadway. Consolidation of access points must be considered.
Minor Arterial	-	68 feet	48 feet	3	5 feet	6 feet	none	5 foot planting strip with street trees on both sides. 8 foot planting strip (within 12 foot median area) with street trees in median.	No direct access allowed for new dwelling units fronting roadway. Consolidation of access points must be considered.
Collector	-	56 to 68 feet	36 to 48 feet	2 or 2 plus median/ center turn lane	5 feet	6 feet	none	5 foot planting strip with street trees on both sides. 8 foot planting strip (within 12 foot median area) with street trees in median.	No direct access allowed for new dwelling units fronting roadway. Consolidation of access points must be considered.
Industrial Collector	-	72 feet	52 feet	2	5 feet next to curb	6 feet	both sides	5 foot planting strip with street trees on both sides behind sidewalk.	No direct access allowed for new dwelling units fronting roadway. Consolidation of access points must be considered.
Neighborhood	1,500 vpd	54 feet	34 feet	2	5 feet	none	both sides	5 foot planting strip with street trees on both sides next to curb.	No direct property access within 50 feet of adjacent intersection.
Commercial	-	62 feet	38 feet	2	12 feet	none	both sides	Street tree wells within the sidewalk area next to curb.	No direct property access within 50 feet of adjacent intersection.
Local	1,000 vpd	48 to 52 feet	28 to 32 feet	2	5 feet	none	one side or both sides	5 foot planting strip with street trees on both sides next to curb.	No direct property access within 25 feet of adjacent intersection.
Industrial Local	1,000 vpd	60 feet	40 feet	2	5 feet next to curb	none	both sides	5 foot planting strip with street trees on both sides behind sidewalk.	No direct property access within 25 feet of adjacent intersection.
Cul-de-sac	150 vpd	48 feet	28 feet	2	5 feet	none	both sides	5 foot planting strip with street trees on both sides next to curb.	none
Loop Turn-Around	150 vpd	48 feet	28 feet	2 with one-way loop	5 feet	none	both sides, allowed on outside of loop	5 foot planting strip with street trees on both sides next to curb.	none
Hammerhead	-	48 feet	28 feet	2	5 feet	none	both sides	5 foot planting strip with street trees on both sides next to curb.	none

Note: VPD = vehicles per day
*Access spacing standards shown in Table 1-4 and 8-2.
Traffic calming measures are appropriate on neighborhood and local streets only.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. Generally, TDM focuses on reducing vehicle miles traveled and promoting alternative modes of travel for large employers of an area.

The City of Happy Valley will coordinate with Clackamas County and TriMet to implement strategies to assure that the TDM assumptions in the RTP are implemented. The City of Happy Valley will coordinate with Clackamas County and TriMet to implement the pedestrian, bicycle, and transit system improvements, which offer alternative modes of travel. The recommended TDM action plan includes:

- Support continued efforts by TriMet, Metro, ODOT, and Clackamas County to develop productive TDM measures that reduce commuter vehicle miles and peak hour trips.
- Encourage the development of high speed communication in all part of the city (fiber optic, digital cable, DSL, etc). The objective is to provide employers and residents a full range of options for conducting business and activities (such as home office, telecommuting), which can contribute to a reduction in peak hour travel on the roadway system.
- Encourage developments that effectively mix land uses to reduce vehicle trip generation. Development proposals will consider linkages (particularly non-auto) to support greater use of alternative travel modes.
- Increase industrial, commercial and institutional land uses within Happy Valley to provide additional employment opportunities and reduce the average commute length.
- Continued implementation of motor vehicle minimum and maximum parking ratios for new development.
- Continued implementation of street connectivity requirements.
- Require new development to install bicycle racks.
- Implementation of bicycle, pedestrian, transit and motor vehicle system action plans.

Roadway Improvements

The extent and nature of the recommended street improvements for Happy Valley are significant. The forecasted 2025 land use indicates significant growth in both housing and employment within the TSP study area. The portion of Happy Valley bounded loosely by Clatsop Street to the north, 145th Avenue and 162nd Avenue to the east, Highway 212 to the south and the west City limits is expected to experience moderate growth in the next 20 years. The major growth areas are the Rock Creek Area bounded by Sunnyside Road, Highway 212, 162nd Avenue and 172nd Avenue, the Scouter Mountain Area bounded by 145th Avenue, 172nd Avenue, Clatsop Street, Monner Road and Hagen Road and the 172nd Avenue corridor from Highway 212 to Foster Road.

There are a number of locations in Happy Valley where, due to the lack of alternative routes, there is an imbalance of traffic volumes that load onto one street. A well connected transportation system limits out of direction travel for motorists, bicycles and pedestrians and reduces vehicle miles traveled within the study area. Several roadway extension projects are needed to improve citywide connectivity for all modes of travel.

The 2025 Priority analysis found that significant improvements would be required at the majority of the study intersections to accommodate the forecasted growth. These improvements include

traffic signal control, additional turn lanes, roadway widening, revised traffic signal phasing and traffic signal coordination. Based on these needs, a Motor Vehicle Master Plan was created that is shown in Figure 8-10. The updated Motor Vehicle Master Plan costs are estimated to be $172 million. The Motor Vehicle Master Plan will require incremental implementation. As development occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, projects on the Master Plan will be integrated into project development.

The motor vehicle goals and input from the CAC and TAC were reviewed to create a Motor Vehicle Action Plan, which are projects that are reasonably expected to be funded by the year 2025. The highest ranking City projects that are reasonably expected to be funded were combined with projects from other agencies identified in the RTP Financially Constrained scenario to create the project list shown in Table 1-6. The construction of new collector and arterial facilities would only occur to support future development or redevelopment and would not be initiated by the City.

Table 1-6: Motor Vehicle Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue Widening North	Widen to 5-lane major arterial between Sunnyside Road and Clatsop Street.	Joint SDC Fund	2021-2025	$21,300
122nd/129th Avenue Widening	Widen to 3-lane collector between Sunnyside Road and King Road and smooth curves.	Joint SDC Fund	2016-2025	$4,800
162nd Avenue Widening	Widen to 3-lane collector from Hagen Road to Palermo Avenue.	Joint SDC Fund	-	$3,900
162nd Avenue Extension South**	Construct a new 3-lane collector south of the Taralon development to Highway 212.	Joint SDC Fund	-	$8,800
162nd Avenue Extension North**	Construct a new 2/3-lane collector between Hagen Road and Clatsop Street.	Joint SDC Fund	-	$14,600
Clatsop Street Extension East**	Construct a new 3-lane collector between 162nd Avenue and 177th Avenue.	Joint SDC Fund	-	$3,400
Scouter Mountain Road**	Construct a new east-west collector on the south side of Scouter's Mountain between 147th Avenue and 177th Avenue.	Joint SDC Fund	-	$7,600
Rock Creek Boulevard**	Construct a new 5-lane east-west major arterial from 177th Avenue to the Sunrise Corridor Rock Creek interchange.	Joint SDC Fund	-	$17,000
			Total Motor Vehicle Project Costs	**$81,400**

**These projects would only occur with development or redevelopment and would not be initiated by the City.

Trucks

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The establishment of through truck routes provides for this efficient movement while at the same time maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Sunnyside Road and 172nd Avenue are recommended as designated through truck routes in the TSP study area. The objective of these route designations is to allow these routes to focus on design criteria that are "truck friendly"; i.e. 12-foot travel lanes, longer access spacing, 35-foot (or larger) curb returns and pavement design that accommodates a larger share of trucks.

Other Modes

While auto, transit, bicycle and pedestrian transportation modes are the primary means of travel in Happy Valley, other modes of transportation must be considered and addressed. Future needs for alternative fuel vehicles, rail, air and water infrastructure are identified and summarized below.

Alternative Fuel Vehicles

The use of alternative fuel vehicles shall be encouraged in Happy Valley. This could be achieved by providing incentives for electric car charging spaces at key activity centers and biodiesel stations within the City. Alternative fuel vehicles would use the same right-of-way as gasoline-powered vehicles.

Rail

There are no rail facilities within the City of Happy Valley. There are not expected to be any rail facilities within the City in the near future. Due to these considerations, no policies or recommendations in this area of transportation is provided for Happy Valley.

Air

There are no airports within the City of Happy Valley. Passenger service to Happy Valley residents is provided via Portland International Airport, approximately 10 miles to the north of Happy Valley.

Water

There are no navigable waterways in the Happy Valley TSP study area. No policies or recommendations in this area of transportation are provided.

Funding

Transportation funding is commonly viewed as a user fee system where the users of the system pay for infrastructure through motor vehicle fees (such as gas tax and registration fees) or transit fares. However, a great share of motor vehicle user fees goes to road maintenance, operation and preservation of the system rather than construction of new system capacity. Much of what the public views as new construction is commonly funded (partially or fully) through property tax levies, traffic impact fees and fronting improvements to land development. The City of Happy Valley utilizes a number of mechanisms to fund construction of its transportation infrastructure, including:

- State Fuel Tax and Vehicle License Fee
- Portland General Electric Privilege Tax
- System Development Charges

Under the above funding programs, Happy Valley would collect a total revenue of $166 million over the next 20 years. The majority of these funds are from estimated SDC fees which are based on the future land use forecasts and would be obtained from development. If the forecasted future growth does not occur than the amount of SDC revenue would be reduced drastically.

The cost estimates outlined in the Transportation System Plan to implement the Action Plans for Motor Vehicles, Transit, Bicycles and Pedestrians total $82.1 million, and the recommended transportation operations and maintenance programs would add $11.7 million for a total cost over 20 years of $93.8 million. Refer to Chapter 4 through 9 for details on the individual projects by travel mode. Note that some additional projects are listed in the Action Plans that are expected to be funded by other agencies (Metro, TriMet). These non-City costs have not been included in the estimates in Table 1-7, but are identified in the master plans.

Table 1-7: Happy Valley Transportation Action Plans Costs over 20 years (2004 Dollars)

Transportation Element	Approximate Cost ($1,000)
System Improvement Projects (Action Plans projects to be funded by the City)	
Pedestrian	$660
Bicycle	$0
Transit	$0
Motor Vehicle	$81,400
Total Capital Projects	**$82,060**
Operations and Maintenance Programs and Services	
Road Maintenance ($381,000/yr plus 150%)	$11,430
School Safety Program ($5,000/yr)	$100
Neighborhood Traffic Management ($10,000/yr)	$200
Total Operations and Maintenance Programs	**$11,730**
20 YEAR TOTAL	**$93,790**

The estimated $93.8 million for transportation capital projects and maintenance is expected to be adequately funded by the 20-year revenue estimate of $166 million (see Table 10-1). New funding sources to allow additional project on future Action Plans will be considered.

Happy Valley will investigate the use of a street utility fee to increase capital funding for local transportation projects. Street utility fees can provide a stable source of dedicated revenue useable for transportation system operations and maintenance and/or capital construction. Rate revenues can also secure revenue bond debt if used to finance capital improvements. Street utilities can be formed by Council action, and billed through the City utility billing system. A transportation analysis of street utility fees will be conducted to determine the steps needed to establish a street utility fee, calculate potential utility fees for various land uses in the city, estimate annual revenue generation, identify priority transportation projects to be constructed and evaluate implementation of the program.

In addition, the City will actively pursue grant and other special program funding in order to mitigate the costs to its citizens of transportation capital construction.

2. Goals and Policies

The goals and policies established by the 1998 TSP were adopted to guide transportation system development in Happy Valley. In addition to retaining and refining previously adopted policies that are still applicable, new policies have been incorporated to meet recent changes to state and regional transportation plan policies and regulations.

The following transportation-related goals and policies were developed with input from the Citizen's Advisory Committee and Technical Advisory Committee. Some policies are provided with additional background information and explanation regarding their implementation.

Goal 1: Livability - Transportation facilities shall be planned, designed and constructed in a manner which enhances the livability of Happy Valley.

Policy 1a: Build residential and neighborhood streets to discourage speeding.

The City will develop and maintain design standards and criteria for neighborhood traffic management for use in new development as well as existing neighborhoods for City streets. Measures to be developed may include narrower streets, speed bumps, traffic circles, curving streets, diverters, enforcement and/or other measures. The neighborhood traffic management design standards shall meet the current Oregon Fire Code.

Policy 1b: Encourage pedestrian accessibility by providing safe, secure and desirable pedestrian routes.

The City will develop and maintain a pedestrian plan in Happy Valley, outlining pedestrian routes. Sidewalk standards will be developed to define various widths, as necessary, for City street types.

Policy 1c: The City shall encourage the use of alternative fuel vehicles and the use of more efficient transportation modes.

The City shall consider providing incentives to encourage development which supports the use of alternative fuel vehicles within Happy Valley (i.e. charging stations for electric cars, biodiesel stations, etc.)

Policy 1d: The City shall be open to alternative designs such as roundabouts, etc.

Goal 2: Mobility - Transportation facilities shall accommodate commercial, industrial and residential growth and provides access though and around Happy Valley.

Policy 2a: The City shall work to minimize traffic on local streets within the city by supporting improvements that limit the amount of cut-through traffic passing through Happy Valley except for on major arterials.

Policy 2b: In development of roadway projects, impacts to adjacent homes/properties will be considered, minimized, and balanced between providing a safe and efficient transportation facility.

The City shall create a balance between neighborhood impacts and traffic safety by considering varying street widths (via removal of planter strips and/or center turn lane/median or by narrowing travel lanes) as well as traffic needs when roadway improvements are made.

Policy 2c: Balance the functional classification system throughout the City.

The City shall design an appropriate balance of local, collector, and arterial streets to accommodate the mobility needs of the City. This may include designing additional arterial streets as well as maintaining the functionality of the existing classifications of streets (i.e. a collector shall function as a collector, not a local street).

Goal 3: Multi-Modal Travel - Happy Valley shall strive to achieve a balanced transportation system that reduces the number of trips by single occupant vehicles by meeting the needs of auto, bicycle, pedestrian, and transit and increasing the connectivity for alternate travel modes.

Policy 3a: Bicycle lanes must be constructed on all arterials and collectors within Happy Valley (with construction or reconstruction projects). All schools, parks, public facilities and retail areas shall have direct access to a bikeway.

The City will develop a bicycle plan which connects key activity centers (such as schools, parks, public facilities and retail areas) with adjacent access. Standards for bicycle facilities within Happy Valley will be developed and maintained. Where activity centers are on local streets, connections to bicycle lanes shall be designated.

Policy 3b: Sidewalks must be constructed on all streets within Happy Valley (with construction or reconstruction projects). All schools, parks, public facilities and retail areas shall have direct access to a sidewalk.

The City will develop a pedestrian plan which connects key activity centers with adjacent access. Standards for pedestrian facilities within Happy Valley will be developed and maintained.

Policy 3c: Bicycle and pedestrian plans shall be developed which link to existing and planned recreational trails.

The bicycle and pedestrian plans will need to indicate linkages between recreational and basic pedestrian networks.

Policy 3d: Coordinate with Tri-Met to improve transit service in Happy Valley. Fixed route transit will use arterial and collector streets in Happy Valley. Park & Ride lots will be provided to accommodate concentrated transit demands where feasible.

The Regional Transportation Plan (RTP) and Tri-Met service plan will be the guiding documents for development of Happy Valley's transit plan. The City will provide input to Tri-Met regarding their specific needs, such as maintaining the existing dial-a-ride service provided within the Happy Valley City limits or regarding desired new routes.

Policy 3e: Local streets shall be designed to encourage a reduction in trip length by providing connectivity and limiting out-of-direction travel. Connectivity shall be provided according to published Metro guidelines that improve local circulation by providing connections to activity centers and destinations. Metro's Local Street System Design Criteria calls for no more than 530 feet between local street intersections.

Wherever necessary, new streets built to provide connectivity shall incorporate traffic management design elements, particularly those which inhibit speeding.

Policy 3f: Participate in vehicle trip reduction strategies developed regionally.

DEQ and Metro are developing regional policies regarding trip reduction. Some of these policies are aimed at provision of parking and others are aimed at ridesharing (Employee Commute Options - ECO rules).

Policy 3g: Improve pedestrian access to transit as service demands increase in the future.

This includes filling in gaps in the sidewalks near transit stops, locating transit stops near building entrances and proving adequate street lighting.

Policy 3h: Pursue the expansion of the regional and local trail system with new development.

The City will coordinate regional trail development with Metro. Design standards for recreational elements will need to be developed and maintained.

Policy 3i: Implement regional alternative mode share targets to reduce the reliance on single-occupancy vehicles.

The City shall adopt the 2040 Non-SOV Modal Targets established by Metro (2004 Regional Transportation Plan, Metro, July 8, 2004, Chapter 1). Improvement in non-single-occupancy vehicle mode share will be used to demonstrate compliance with per capita travel reductions required by the State Transportation Planning Rule.

Policy 3j: Neighborhoods shall be connected to minimize out of direction travel for pedestrians and bicycles. This is achieved with a well developed local street system and off-street trail system.

The purpose of this policy is to provide accessibility within Happy Valley, with a focus on pedestrian connectivity. Pedestrian connectivity can be provided via pedestrian/bike paths between local streets and/or greenways where auto connectivity does not exist or is not feasible.

Goal 4: Safety - Happy Valley shall strive to achieve a safe transportation system by developing street standards, access management policies when constructing streets and by making street maintenance a priority.

Policy 4a: Design of streets shall relate to their intended use and function.

A functional classification system shall be developed for Happy Valley which meets the City=s needs and respects needs of other agencies (Clackamas County, Metro, City of Portland). Appropriate design standards for these roadways will be developed by the appropriate jurisdiction.

Policy 4b: Safe and secure routes to schools shall be designated for each school and any new residential project shall identify the safe path to school for children.

Working with the school district and citizens, the City will need to undertake a process of defining school route.

Policy 4c: Safe and secure pedestrian and bikeways shall be designed between parks and other activity centers in Happy Valley.

Policy 4d: Street maintenance shall be a priority to improve safety in Happy Valley.

The City shall coordinate with Clackamas County for the maintenance of those facilities within the City maintained by the County.

Policy 4e: Access management standards shall be developed in conjunction with the functional classification system for Happy Valley to improve safety in Happy Valley.

Access control standards shall be developed for each street classification. These standards shall be applied to all new road construction and new development. For roadway reconstruction, existing driveways shall be compared with the standards and a reasonable attempt shall be made to comply.

Policy 4f: New roadways shall meet lighting standards. Existing roadways shall be systematically retrofitted with roadway lighting.

Priority locations for roadway lighting include schools, parks, town center. The City shall coordinate with the County lighting district.

Goal 5: Evaluation - Transportation performance measures shall be maintained in the City.

Policy 5a: A minimum intersection level of service standard shall be maintained for the City of Happy Valley. All signalized intersections shall operate at level of service D or better during the peak hour of analysis. All unsignalized intersections shall operate at level of service E or better (based on average approach delay) for all side street approaches during the peak hour of analysis.

The City shall utilize these standards to evaluate land use actions and proposed mitigations. All public facilities shall be designed to meet these standards.

The intersection level of service standards shall be listed in the Land Development Code (LDC) for the City of Happy Valley.

Policy 5b: Parking ratios shall be set to provide adequate parking, while providing an incentive to limit the use of the single occupant vehicle consistent with Title 2 regional standards.

Parking standards shall be listed in the Land Development Code (LDC) for the City of Happy Valley. DEQ is encourages lower parking ratios to encourage use of alternative modes (walking, biking, transit, car pooling, etc.).

Policy 5c: For purposes of compliance with OAR 660-12-060 (Transportation Planning Rule), the City will consider only improvements listed in the Financially Constrained funding scenario of the Regional Transportation Plan, and/or in the City's Capital Improvement Plan (CIP), in determining the planned capacity, function and level of service of transportation facilities and services. This policy will apply to all plan and ordinance amendments.

Goal 6: Accessibility - Develop transportation facilities which are accessible to all members of the community.

Policy 6a: Design and construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

Goal 7: Cooperation - Implement the Transportation System Plan (TSP) in a coordinated manner.

Policy 7a: Coordinate and cooperate with adjacent agencies when necessary to develop transportation projects which benefit the region as a whole in addition to the City of Happy Valley.

Policy 7b: Plan transportation projects which are consistent with the amount of funding available.

Goal 8: Goods Movement - Provide for efficient movement of goods and services.

Policy 8a: All collector, neighborhood route, and local streets in Happy Valley shall limit through truck traffic.

Policy 8b: Specific arterials shall be designated as freight routes for through truck movements.

Policy 8c: Develop adjacent land uses in ways that facilitate the efficient movement of goods and services.

3. Existing Conditions

This chapter presents the existing condition of the transportation network in the study area for the Happy Valley transportation system plan. The purpose of this chapter is to document existing transportation facilities in the study area. The findings will be a basis for determining the existing transportation needs and developing future transportation projects within the study area.

Overview

Existing transportation conditions were evaluated as part of the City of Happy Valley TSP Update. An analysis of current conditions provides an understanding of facility development, service and performance. This chapter summarizes existing transportation operation in the City for all travel modes including pedestrians, bicycles, transit, motor vehicles, freight, water and air, as applicable. To understand existing travel patterns and conditions, multiple aspects of the city's transportation system were considered. An inventory was conducted to establish base year conditions for the TSP in the spring of 2005. Additional system inventory efforts were conducted for the east portion of the city (162nd Avenue to 177th Avenue north of Sunnyside Road) in the fall of 2006. Much of this data provides a basis of comparison for future assessment of transportation performance in Happy Valley relative to desired policies.

The study area includes the City of Happy Valley and the surrounding area transportation system network. The study area for this TSP update is shown in Figure 3-1.

Thirty intersections within the study area were selected for focused operational analysis. Data was gathered at these locations to evaluate traffic conditions including vehicle delays and levels of service. The following sections review the existing transportation systems including pedestrian, bicycle, transit, motor vehicle and other modes (such as heavy vehicle, rail, etc.) and their performance within the City of Happy Valley.

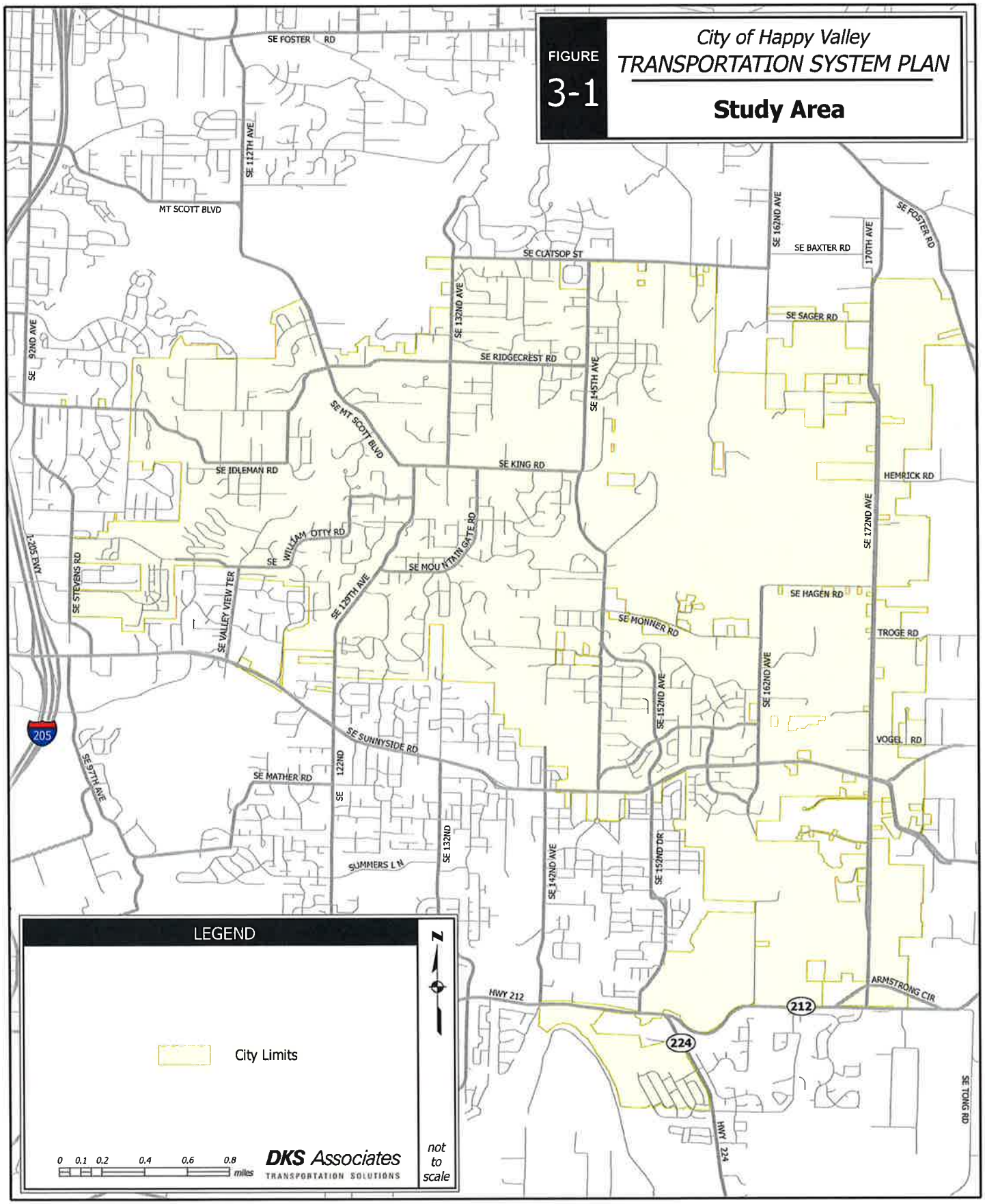


FIGURE
3-1
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Study Area
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE CLATSOP ST
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE 132ND AVE
SE SAGER RD
SE 92ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
HEMRICK RD
SE WILLAMETTE FALLS DR
SE MOUNTAIN GATE RD
SE 172ND AVE
I-205 EXIT
SE STEVENS RD
SE VALLEY VIEW TER
SE 135TH AVE
SE HAGEN RD
SE MONNER RD
TROGE RD
SE 162ND AVE
SE 152ND AVE
205
SE SUNNYSIDE RD
VOGEL RD
SE 97TH AVE
SE MATHER RD
SE 122ND
SE 132ND
SUMMERS LN
SE 142ND AVE
SE 152ND DR
HWY 212
ARMSTRONG CIR
212
224
SE TONG RD
HWY 224
LEGEND
City Limits
N
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

PEDESTRIANS

In general, the arterial and collector streets in Happy Valley have intermittent sidewalks. Although many of the study area intersections have sidewalks on each approach leg, often the connectivity beyond the intersection is poor and does not extend far from the intersection. Many of the new residential developments in the area have sidewalks within the development, but are lacking a connection to other nearby sidewalks, thus discouraging walking as a viable, safe mode of travel. Roadways in the eastern portion of the City are unimproved and do not provide sidewalks on either side of the street.

Figure 3-2 shows the existing sidewalk inventory in Happy Valley. Sidewalks on either side of residential streets are shown in Figure 3-2. Residential developments constructed in the last 15 years have sidewalks typically on both sides of residential streets. There are very few exceptions where new residential streets have sidewalks on only one side of the street. The Sunnyside Road Phase 2/3A Improvement project from 122nd Avenue to 162nd Avenue is currently under construction and includes sidewalks on both sides of the roadway. The Sunnyside Road Phase 3B Improvement project from 162nd Avenue to 172nd Avenue is planned to begin construction in the summer of 2007 and will include sidewalks on both sides of the roadway.

Pedestrian counts were conducted during the PM peak hour at the study intersections. These counts represent a sample of the existing pedestrian activity based on one evening peak period. Pedestrian activity is influenced by factors such as time of year and weather conditions; variations would be expected with data collection over time based on these factors. Generally, the proximity to adjacent land uses (i.e. schools, parks, commercial developments) are the most significant predictors of pedestrians and thus represent key areas for sidewalk placement and connectivity. Pedestrian crossing volumes are shown in Table 3-1. The volumes collected during a peak period (4:00-6:00 p.m.) represent the number of pedestrians which cross any leg of the intersection.

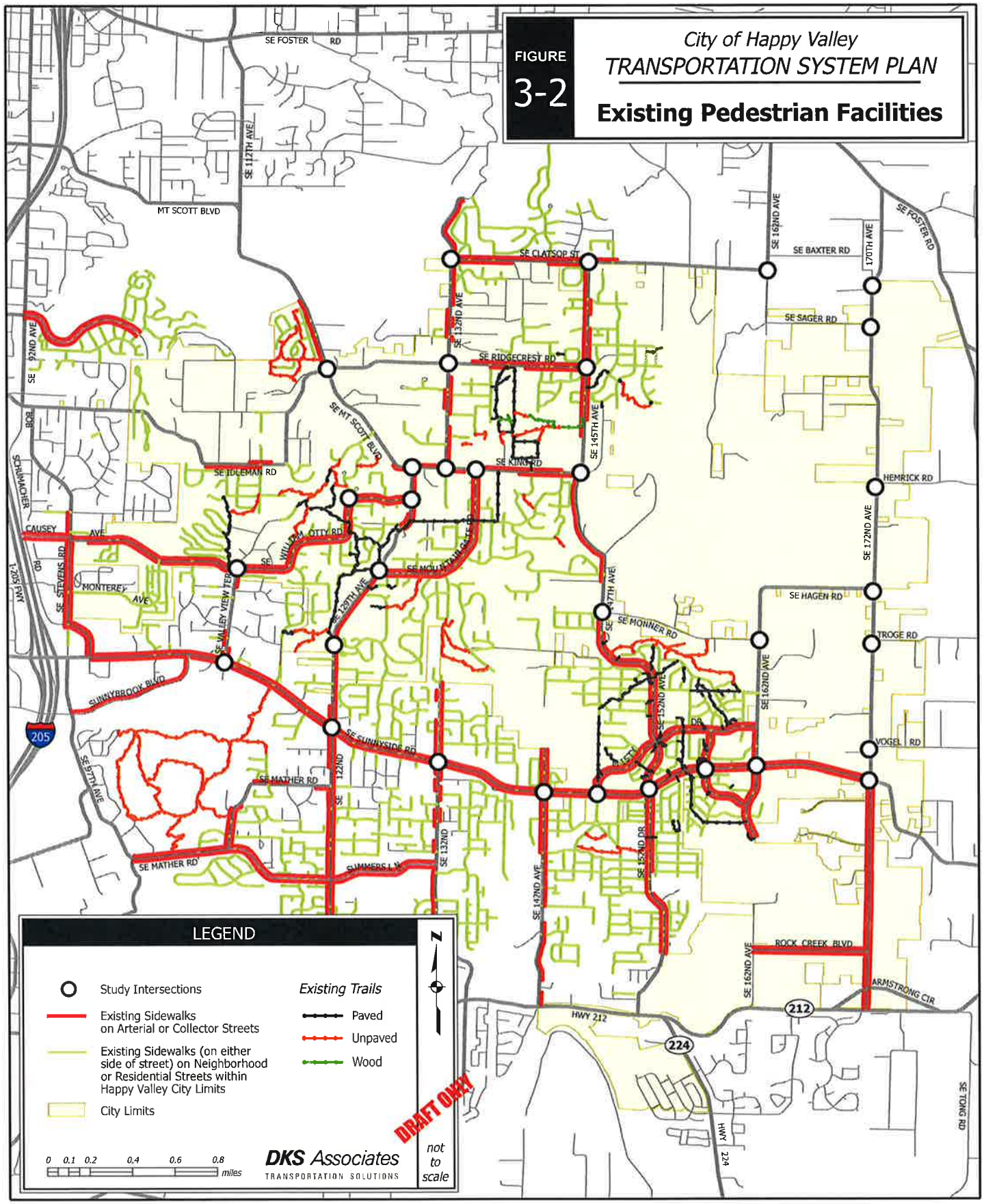


FIGURE 3-2
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Pedestrian Facilities
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
BOB SCHUMACHER RD
CAUSEY AVE
I-205 FWY
SE STEVENS RD
MONTEREY AVE
SE IDLEMAN RD
SE MT SCOTT BLVD
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE KING RD
SE 145TH AVE
SE WILLIAM OTTY RD
SE MOUNTAIN GATE DR
SE 129TH AVE
SE VALLEY VIEW TER
SUNNYBROOK BLVD
205
SE 97TH AVE
SE SUNNYSIDE RD
SE MATHER RD
SE 122ND
SE 132ND
SUMMERS LN
SE 142ND AVE
SE 147TH AVE
SE MONNER RD
SE 152ND AVE
SE 152ND DR
SE 162ND AVE
SE 162ND
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
HEMRICK RD
SE 172ND AVE
SE HAGEN RD
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Study Intersections
Existing Sidewalks on Arterial or Collector Streets
Existing Sidewalks (on either side of street) on Neighborhood or Residential Streets within Happy Valley City Limits
City Limits
Existing Trails
Paved
Unpaved
Wood
N
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
DRAFT ONLY
not to scale

Table 3-1: Pedestrian Crossing Volumes (Weekday PM Peak Hour)

Intersection	Pedestrian Crossing Volume
Sunnyside Road/Valley View Terrace	17
Sunnyside Road/122nd Avenue	0
Sunnyside Road/132nd Avenue	3
Sunnyside Road/142nd Avenue	14
Sunnyside Road/147th Avenue	7
Sunnyside Road/152nd Avenue	0
Sunnyside Road/162nd Avenue	0
Sunnyside Road/172nd Avenue	0
162nd Avenue/Monner Road	0
172nd Avenue/Hagen Road	0
147th Avenue/Monner Road	3
145th Avenue/King Road	-
145th Avenue/Callahan Road	-
145th Avenue/Clatsop Road	2
132nd Avenue/King Road	16
132nd Avenue/Ridgecrest Road	-
132nd Avenue/Clatsop Street	6
122nd Avenue/Spring Mountain Drive	-
129th Avenue/Mountain Gate Road	-
129th Avenue/William Otty Road	2
129th Avenue/King Road/Mt. Scott	1
William Otty Road/Kimberly Court	9
William Otty Road/Valley View Terrace	13
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	2
Clatsop Street/162nd Avenue	0
Vogel Road/172nd Avenue	0
Troge Road/172nd Avenue	0
Hemrick Road/172nd Avenue	1
Sager Road/172nd Avenue	0
170th Avenue (Baxter Road)/172nd Avenue	0

The highest pedestrian volumes were observed at 142nd Avenue/Sunnyside Road, Valley View Terrace/Sunnyside Road and 132nd Avenue/King Road. These pedestrian trips are likely generated by the adjacent land use. William Otty Road at Valley View Terrace and Kimberly Court also experienced moderate pedestrian volumes. Study intersections in the east portion of the city were observed with little or no pedestrian activity. This is likely due to the lack of adequate pedestrian facilities and the adjacent land uses.

BICYCLES

The arterial and collector roadway system within the study area has intermittent bicycle facilities. Mountain Gate road has bicycle lanes in both directions and Clatsop Street has bicycle lanes between 132nd Avenue and 145th Avenue. In many roadway sections, the north-south connections end abruptly and do not extend far from Sunnyside Road. Arterials and collector roadways in the eastern portion of the City are unimproved and do not provide bike lanes on either side of the street.

Many collectors in the area have intermittent bike lanes, particularly around schools or other newer residential developments that do not connect and leave the bicyclist forced to share the travel lane with motor vehicles or use the shoulder. In many cases, this is not a desirable option for bicyclists due to narrow widths and uneven pavement conditions. The hilly topography also poses additional safety issues for bicycles sharing the traveled lane with motor vehicles. Figure 3-3 shows the existing inventory of bicycle lanes throughout the study area.

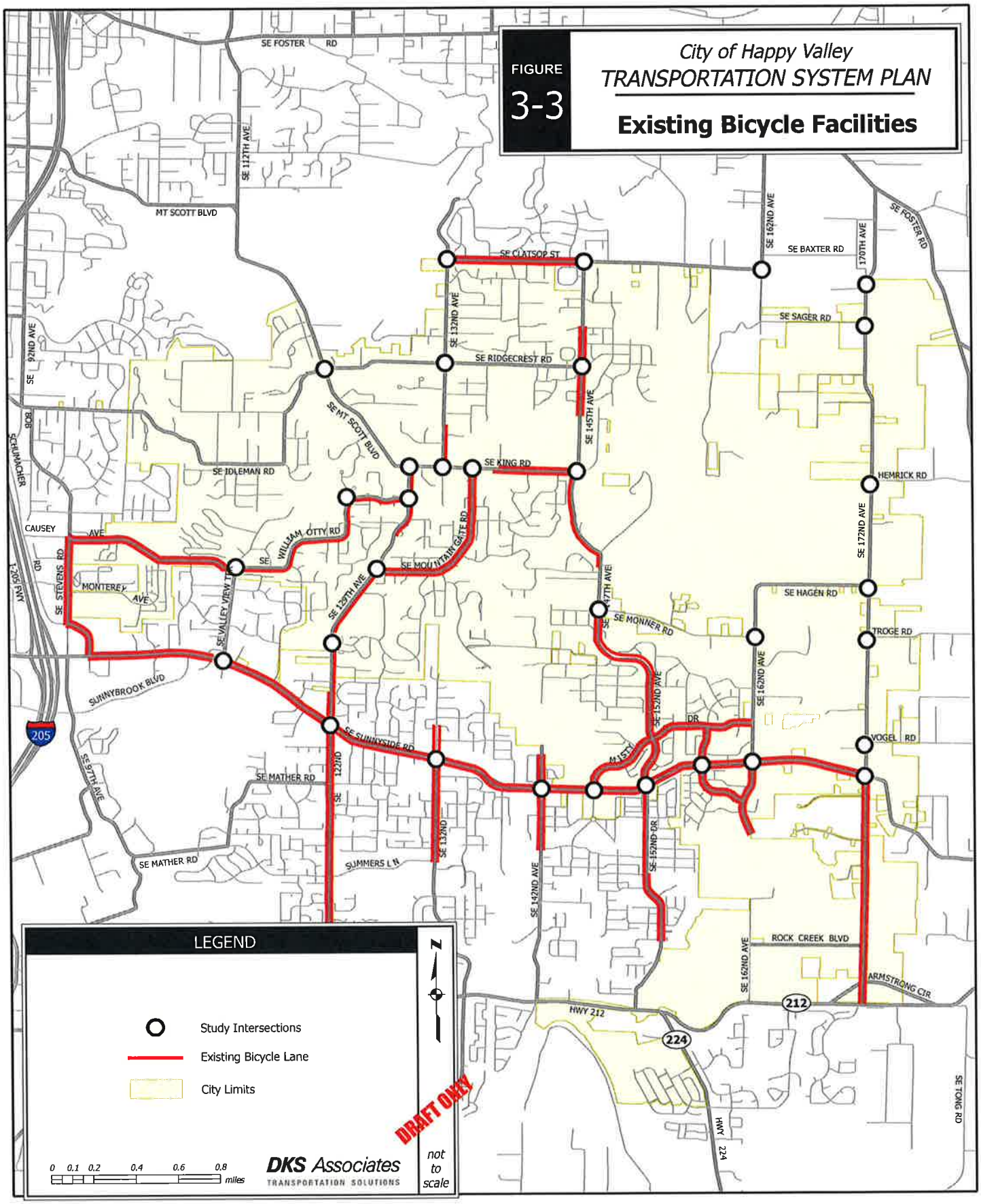


FIGURE 3-3
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Bicycle Facilities
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
BOB SCHUMACHER
CAUSEY AVE
SE STEVENS RD
I-205 FWY
MONTEREY AVE
SUNNYBROOK BLVD
205
SE 97TH AVE
SE MATHER RD
SE IDLEMAN RD
SE MT SCOTT BLVD
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE KING RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE VALLEY VIEW TER
SE 129TH AVE
SE SUNNYSIDE RD
SE 122ND
SUMMERS LN
SE 145TH AVE
SE 147TH AVE
SE MONNER RD
SE 152ND AVE
SE 152ND DR
SE 142ND AVE
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
HEMRICK RD
SE 172ND AVE
SE HAGEN RD
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Study Intersections
Existing Bicycle Lane
City Limits
N
DRAFT ONLY
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

TRANSIT

Transit service is provided in Happy Valley by Tri-Met. Currently there are two routes serving Sunnyside Road and Happy Valley. Bus route 155 services Sunnyside Road and extends from the Clackamas Town Center to 147th Avenue. Route 157 operates north of Sunnyside Road along 129th Avenue and 132nd Avenue in the northbound direction and along 145th Avenue and Mountain Gate Road in the southbound direction as it completes its one-way loop. Most of the bus stops along these routes have minimal amenities, many only have a bench. Both of these routes offer standard service with existing headways of one hour throughout the day. Route 157 does not operate on Sunday. Route 156 serves the area south of Sunnyside Road with the northernmost stop on Oregon Trail Drive within Sunnyside Village. Figure 3-4 shows the transit routes and bus stops serving the City of Happy Valley. Also shown on the figure are routes 19 and 31 that connect to routes serving Happy Valley, but are not within the study area. There are no park and ride lots located within the study area. The area east of 145th Avenue north of Sunnyside Road and east of 152nd Avenue south of Sunnyside Road are currently outside the TriMet Boundary.

Annual weekday bus boardings and alightings were obtained from the 2003 Tri-Met Census[1]. Table 3-2 shows the transit stop locations and the weekday bus ons and offs for stops on routes 155, 156, and 157 that are within the study area.

Table 3-2: Transit Stop Locations and Daily Weekday Ridership

Route	Stop Location	Direction	On	Off	Total
155	Sunnyside/Valley View	Westbound	5	2	7
155	Sunnyside/119th	Eastbound	3	9	12
155	Sunnyside/122nd	Westbound	1	1	2
155	Sunnyside/122nd	Eastbound	2	4	6
155	Sunnyside/128th	Eastbound	0	1	1
155	Sunnyside/128th	Westbound	0	0	0
155	Sunnyside/132nd	Eastbound	1	4	5
155	Sunnyside/132nd	Westbound	5	2	7
155	Sunnyside/139th	Eastbound	1	4	5
155	Sunnyside/140th	Westbound	2	0	2
155	Sunnyside/142nd	Eastbound	0	2	2
155	Sunnyside/142nd	Westbound	2	1	3
155	Sunnyside/145th	Eastbound	0	2	2
155	Sunnyside/145th	Westbound	0	0	0
155	14682 SE 147th	Eastbound	10	8	18
155	14718 SE 147th	Westbound	10	9	19
155	Oregon Trail/Hines	Eastbound	0	3	3
155	Oregon Trail/Hines	Westbound	4	0	4
	Total Route 155		**46**	**52**	**98**
156	Oregon Trail/Hines	Eastbound	2	1	3
156	Oregon Trail/Hines	Westbound	1	1	2

[1] TriMet Passenger Census, TriMet Transportation Planning, Spring of 2003.

	Total Route 156		**3**	**2**	**5**
Route	**Stop Location**	**Direction**	**On**	**Off**	**Total**
157	Sunnyside/114th	Northbound	0	1	1
157	Sunnyside/114th	Southbound	1	0	1
157	Sunnyside/119th	Northbound	1	6	7
157	Sunnyside/119th	Southbound	4	1	5
157	Sunnyside/Valley View	Southbound	4	1	5
157	122nd/One Rosa Dr	Northbound	0	2	2
157	122nd/One Rosa Dr	Southbound	1	0	1
157	122nd /Spring Mountain	Northbound	0	1	1
157	122nd /Spring Mountain	Southbound	0	0	0
157	129th/Masa Lane	Northbound	0	0	0
157	129th/Masa Lane	Southbound	0	0	0
157	129th/Scott Creek Lane	Northbound	2	2	4
157	129th/King	Northbound	1	0	1
157	132nd/Geneva	Northbound	0	0	0
157	132nd/Parkside	Northbound	0	0	0
157	132nd/Callahan	Northbound	0	0	0
157	132nd/Lucille	Northbound	1	1	2
157	Clatsop/141st	Northbound	3	2	5
157	Clatsop/144th	Northbound	0	3	3
157	Clatsop/144th	Southbound	2	0	2
157	145th/Carmichael	Southbound	0	0	0
157	145th/Purple Finch	Southbound	0	0	0
157	10322 145th	Southbound	0	0	0
157	14352 King	Southbound	0	0	0
157	King/Happy Valley	Southbound	0	0	0
157	King/Regina	Southbound	1	0	1
157	Mountain Gate/King	Southbound	0	0	0
157	Mountain Gate/Beckett	Southbound	0	0	0
157	Mountain Gate/Blaze	Southbound	1	0	1
157	Mountain Gate/Evening Star	Southbound	0	0	0
	Total Route 157		**22**	**20**	**42**

As shown by the 2003 census data, ridership is relatively low on the routes serving Happy Valley. Route 155 along Sunnyside Road has moderate ridership with approximately 100 ons and offs during a typical weekday. Route 157 has very few weekday boardings within the study area. The current bus routes have bus stops located close together, which require frequent stops which may contribute to slower overall transit service.

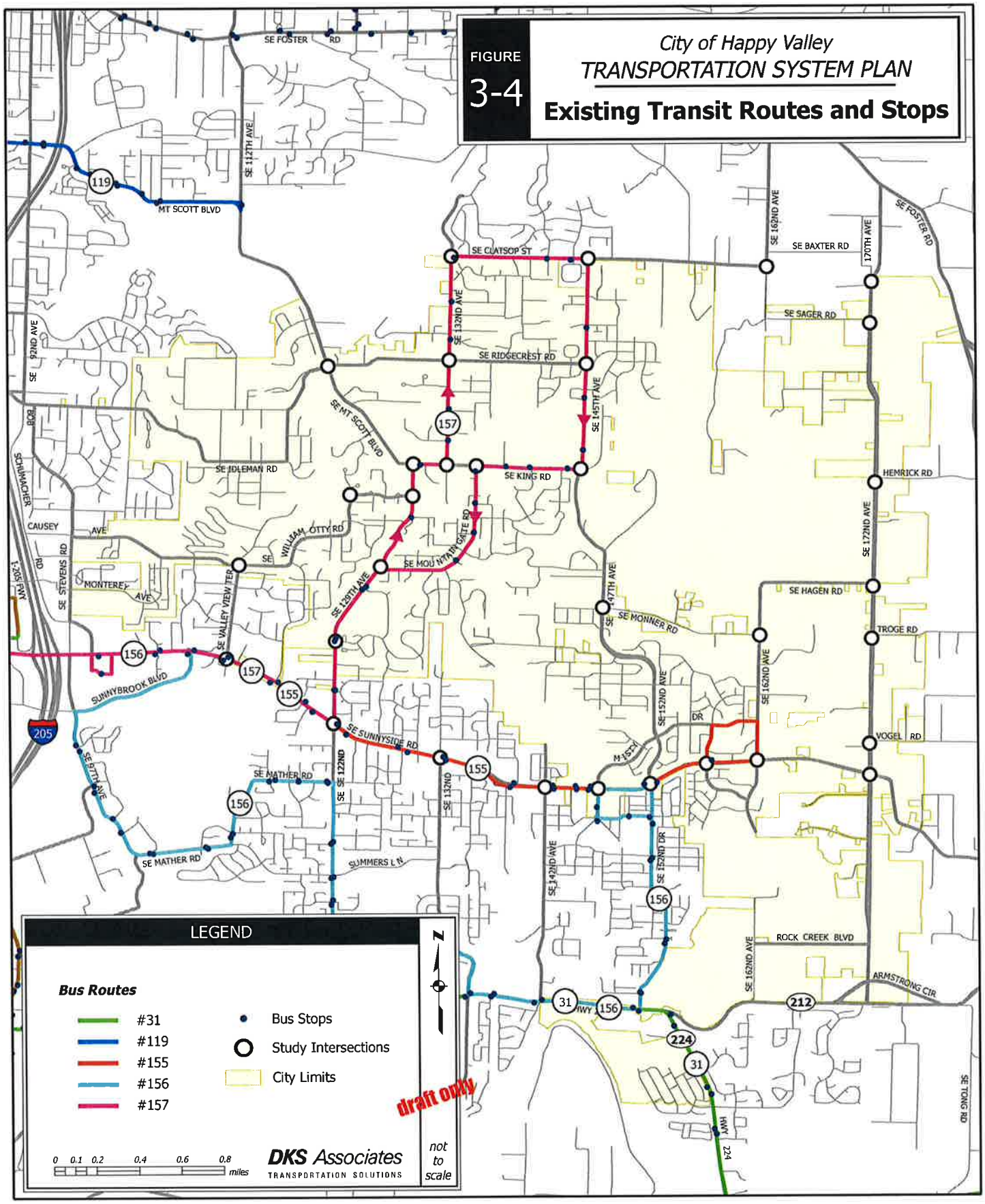


FIGURE
3-4
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Transit Routes and Stops
SE FOSTER RD
SE 112TH AVE
119
MT SCOTT BLVD
SE 92ND AVE
BOB SCHUMACHER CAUSEY AVE
I-205 FWY
SE STEVENS RD
MONTEREY AVE
SE VALLEY VIEW TER
SUNNYBROOK BLVD
205
SE 82ND AVE
SE MATHER RD
SE 122ND
SE 132ND AVE
SE SUNNYSIDE RD
SE 129TH AVE
SE MOUNTAIN GATE RD
SE WILLAMETTE FALLS DR
SE IDLEMAN RD
SE MT SCOTT BLVD
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE KING RD
SE 147TH AVE
SE MONNER RD
SE 152ND AVE
SE 152ND DR
SE 142ND AVE
SUMMERS LN
SE 162ND AVE
SE BAXTER RD
SE SAGER RD
SE HAGEN RD
SE 172ND AVE
HEMRICK RD
TROGE RD
VOGEL RD
170TH AVE
SE FOSTER RD
ROCK CREEK BLVD
ARMSTRONG CIR
SE TONG RD
HWY 224
156
157
155
31
212
224
LEGEND
Bus Routes
#31
#119
#155
#156
#157
Bus Stops
Study Intersections
City Limits
draft only
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

MOTOR VEHICLES

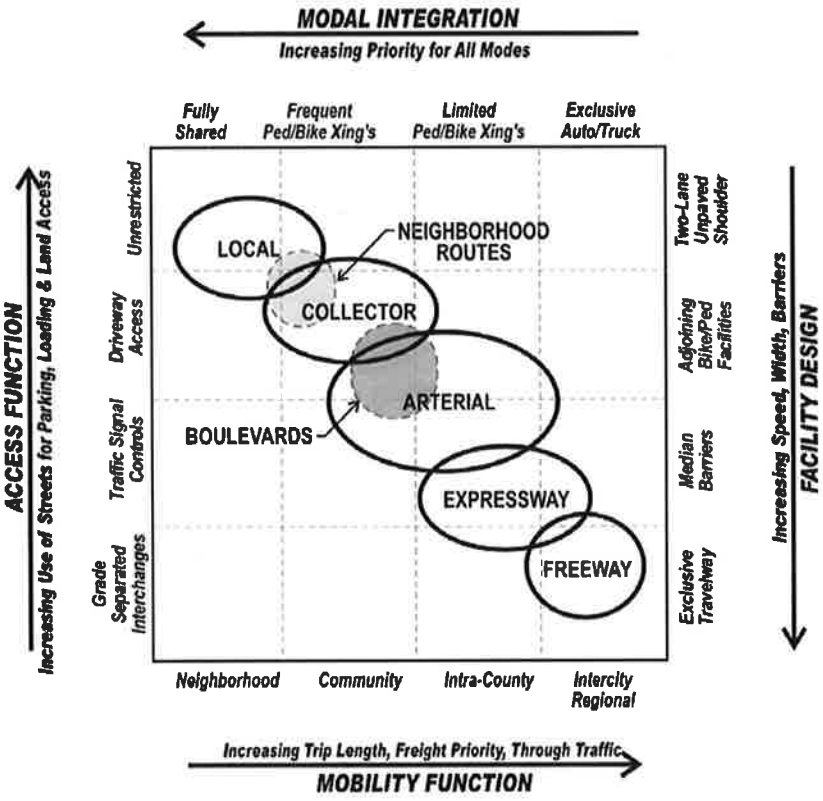
Functional Classification

The functional classification system is designed to serve transportation needs within the community. The schematic diagram below shows the competing functional nature of roadway facilities as it relates to access, mobility, multi-modal transport, and facility design. The diagram is useful to understand how worthwhile objectives can have opposing effects. For example, as mobility is increased (bottom axis), the provision for non-motor vehicle modes (top axis) is decreased accordingly. Similarly, as access increases (left axis), the facility design (right axis) dictates slower speeds, narrower roadways, and non-exclusive facilities. The goal of selecting functional classes for particular roadways is to provide a suitable balance of these four competing objectives.

The diagram shows that as street classes progress from local to freeway the following occurs:

Mobility Increases – Longer trips between destinations, greater proportion of freight traffic movement, and a higher proportion of through traffic.

Integration of Pedestrian and Bicycle Decreases – Provisions for sidewalks and bike facilities are required up through the arterial class, however, the frequency of intersection or mid-block crossings for non-motorized vehicles steadily decreases with higher functional classes. The expressway and freeway facilities typically do not allow pedestrian and bike facilities adjacent to the roadway and crossings are grade-separated to enhance mobility and safety.



Access Decreases – The shared uses for parking, loading, and direct land access is reduced. This occurs through parking regulation, access control and spacing standards (see opposite axis).

Facility Design Standards Increase – Roadway design standards require increasingly wider, faster facilities leading to exclusive travel ways for autos and trucks only. The opposite end of the scale is the most basic two-lane roadway with unpaved shoulders.

Two additional areas are noted on the diagram for Neighborhood Routes and Boulevards that span two conventional street classes.

The existing functional classifications from the 1998 Happy Valley TSP, the Rock Creek Plan and the Clackamas County Functional Classification Plan are shown in Figure 3-5. Where a roadway has different classifications, the Rock Creek Classification took precedence, then the Happy Valley TSP and then the Clackamas County Plan in terms of what is shown on Figure 3-5. The figure identifies five roadway classifications: major arterial (Clackamas County), minor arterial, collector, neighborhood and local. Two state roadways are located south of the TSP study area. The Oregon Highway Plan provides the functional classification of state roadways. Highway 212 is designated as a Statewide Highway and Highway 224 is designated as a District Highway.

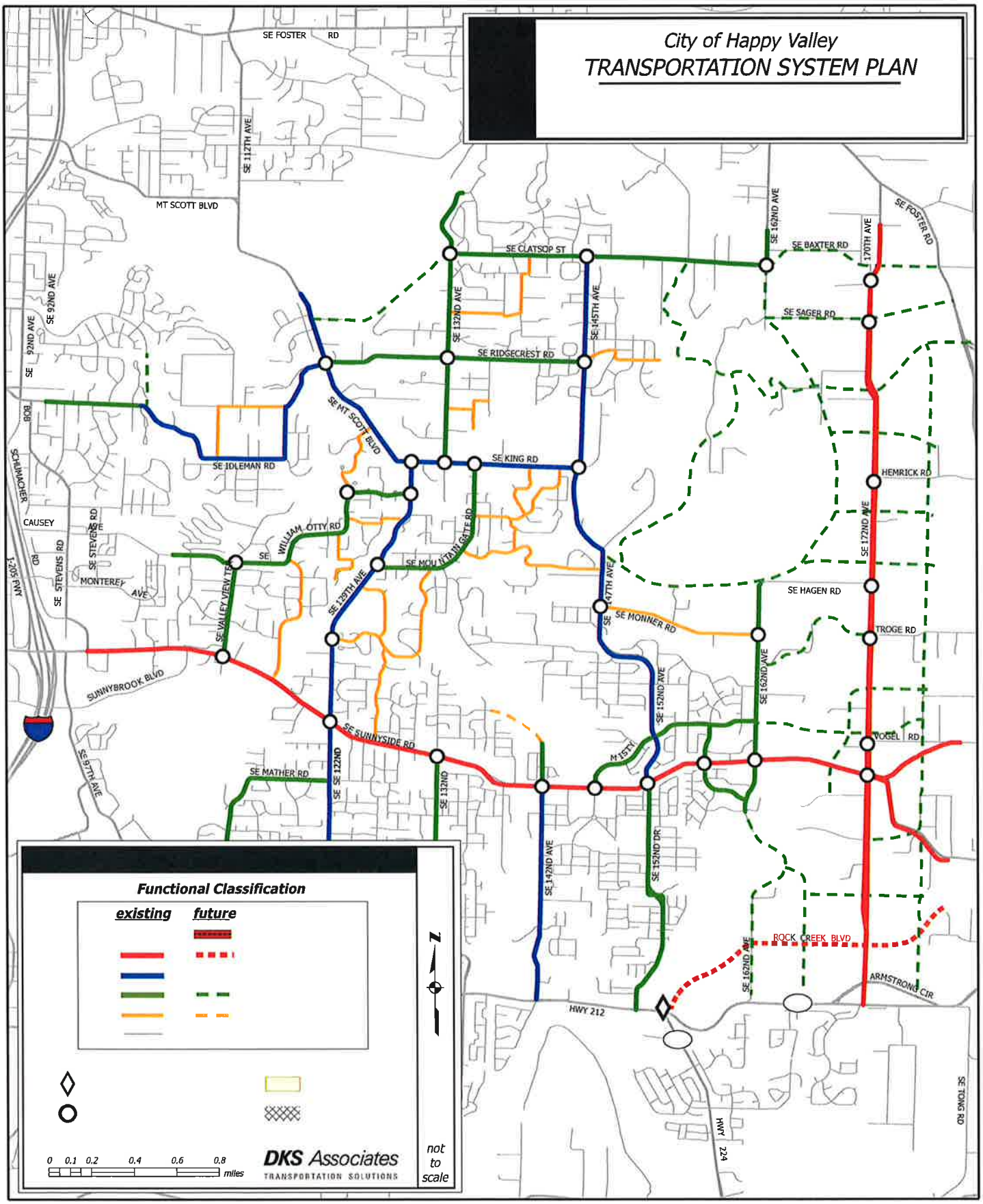
This TSP update should address the limitations of the existing functional class and establish a system that meets City and regional policy issues. A functional class system based primarily on connectivity would allow the design flexibility to handle each of the issues identified above.

Roadway Jurisdiction

Roadway ownership and maintenance responsibilities of arterial and collector roadways in the TSP study area are identified in Figure 3-6. Most arterial and collector roadways north of Sunnyside Road and west of 152nd Avenue are under City jurisdiction. The remaining arterial and collector roadways in the TSP study area are under County jurisdiction. Highway 212 and Highway 224 along the south border of the TSP study area are under State jurisdiction.

Connectivity

The existing street network within Happy Valley is bounded by Sunnyside Road on the south. Sunnyside Road serves as the primary arterial and represents the only direct connector between the east and west boundaries of town. Currently 152nd Avenue/147th Avenue/145th Avenue and 172nd Avenue provide the only direct north/south roadways that connect Sunnyside Road with the northern most limits of the City. The remaining street network is made up of roadways with limited connectivity from the edge of the study area to edge of study area. Many of the collectors in the northern or "bowl" section of the city and the east portion of the study area consist of older roadways and narrow travel lanes, mixed with some newer facilities with bike lanes and sidewalks.


City of Happy Valley
TRANSPORTATION SYSTEM PLAN
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
SE 92ND AVE
BOB SCHUMACHER
CAUSEY
I-205 FWY
SE STEVENS RD
SE STEVENS RD
MONTEREY AVE
SE IDLEMAN RD
SE MT SCOTT BLVD
SE CLATSOP ST
SE 132ND AVE
SE 145TH AVE
SE RIDGECREST RD
SE KING RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE VALLEY VIEW TER
SE 129TH AVE
SE 147TH AVE
SE MONNER RD
SUNNYBROOK BLVD
SE SUNNYSIDE RD
SE 97TH AVE
SE MATHER RD
SE 122ND
SE 132ND
SE 142ND AVE
SE 152ND DR
SE 152ND AVE
M 15TH
SE 162ND AVE
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
HEMRICK RD
SE 172ND AVE
SE HAGEN RD
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
HWY 224
SE TONG RD
Functional Classification
existing
future
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

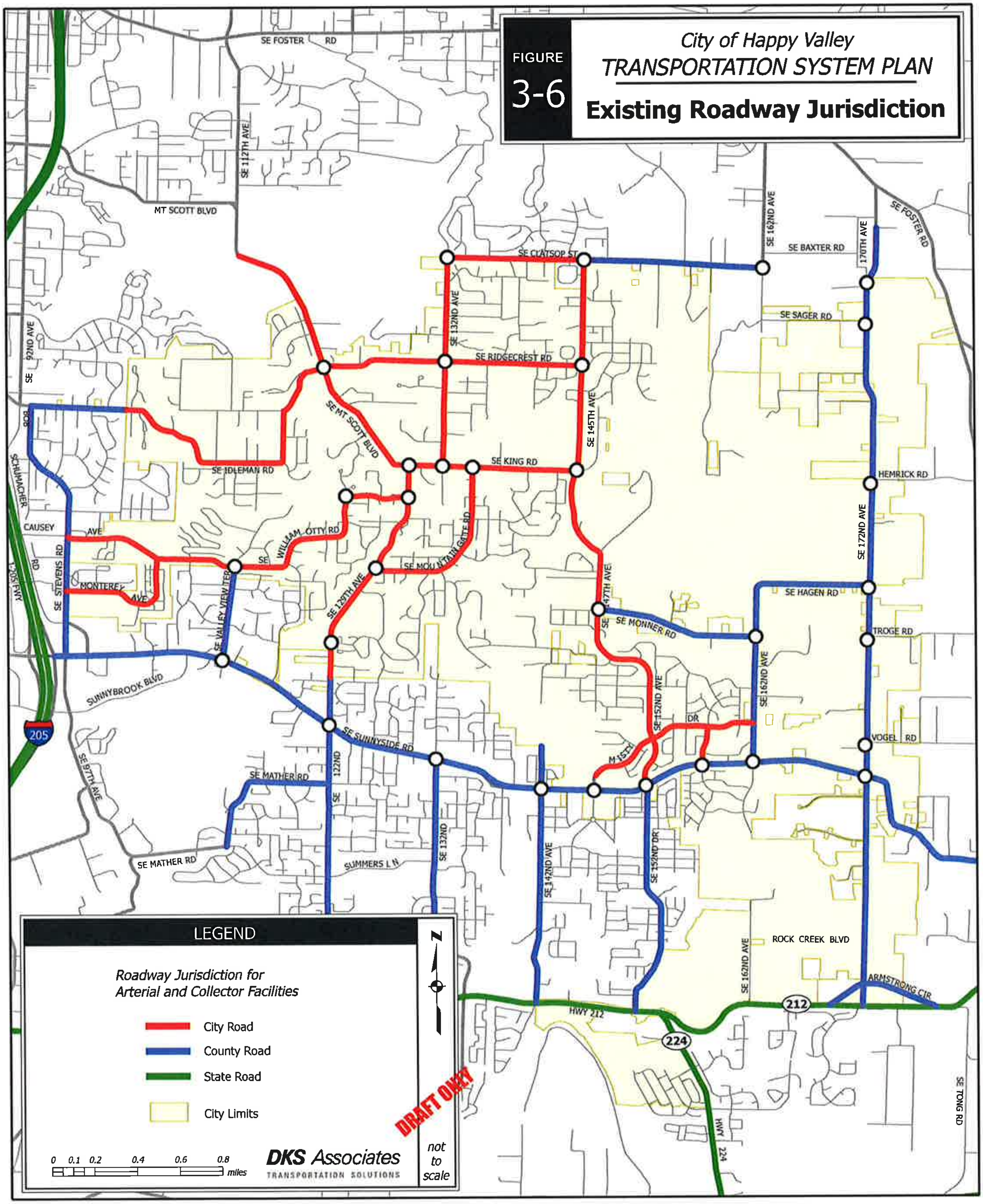


FIGURE
3-6
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Roadway Jurisdiction
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE CLATSOP ST
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
SE 132ND AVE
SE RIDGECREST RD
SE 92ND AVE
SE MT SCOTT BLVD
SE 145TH AVE
SE IDLEMAN RD
SE KING RD
HEMRICK RD
SE 172ND AVE
SCHUMACHER
CAUSEY AVE
SE STEVENS RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
MONTEREY AVE
SE VALLEY VIEW TER
SE 129TH AVE
SE 147TH AVE
SE HAGEN RD
SE MONNER RD
TROGE RD
I-205 FWY
SUNNYBROOK BLVD
SE 152ND AVE
SE 162ND AVE
205
SE 97TH AVE
SE SUNNYSIDE RD
VOGEL RD
SE MATHER RD
SE 122ND
SE 132ND
SE 142ND AVE
SE 152ND DR
SE MATHER RD
SUMMERS LN
ROCK CREEK BLVD
SE 162ND AVE
ARMSTRONG CIR
HWY 212
212
224
SE TONG RD
HWY 224
LEGEND
Roadway Jurisdiction for Arterial and Collector Facilities
City Road
County Road
State Road
City Limits
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
DRAFT ONLY
not to scale
N

ROADWAY CHARACTERISTICS

Field observations were conducted to determine existing characteristics of collectors and arterials within the TSP study area. Data collected included posted speed limits, roadway lanes and intersection controls. These characteristics define roadway capacity and operating speeds through the street system, which affects travel path choices for drivers in Happy Valley.

Vehicle Speeds

Figure 3-7 shows an inventory of the posted speeds in Happy Valley. Sunnyside Road is posted at 40 mph through the entire length of the study area. 172nd Avenue is posted 45 miles per hour from Sunnyside Road to 170th Avenue and 35 miles per hour from 170th Avenue to Foster Road. In general, local and collector roadways are posted at 25 or 35 mph with a few sections posted higher at 40 or 45 mph. The highest posted speed limit within the study area is 45 mph. There are also school zones on King Road, 132nd Avenue and 122nd Avenues that have lower posted speed limits of 20 mph during school periods.

Roadway speed surveys were conducted at four locations over a 24 hour period to determine existing vehicle speed conditions. The 85th percentile vehicle speed represents a condition when 15 percent of the vehicles surveyed were traveling faster than the 85th percentile speed and 85 percent of the vehicles were traveling slower than the 85th percentile speed. Table 3-3 summarizes the speed survey findings.

Table 3-3 Speed Survey Data

Speed Survey Location	NB	SB	EB	WB	85th Percentile Average	50th Percentile Average
147th south of Monner	39	39	-	-	39	34
129th south of Mountain Gate	42	40	-	-	41	36
Mt. Scott Blvd north of Ridgecrest	46	46	-	-	46	41
King Avenue east of 129th Avenue	-	-	37	36	37	32

Intersection Control

The only signalized intersections within the City of Happy Valley are located along Sunnyside Road. The remaining intersections are controlled by stop signs either on the minor street approaches or as an all stop intersection. The study intersection locations and the existing intersection controls are shown in Figure 3-7. The study intersections include six signalized intersections, 17 intersections with stop sign control and seven all-way stop controlled intersections.

Roadway Cross-section

The existing number of travel lanes on key roadways in Happy Valley is shown in Figure 3-8. The widest roadway is Sunnyside Road, which ranges from 7-lanes west of 122nd Avenue to two lanes at 172nd Avenue. The remaining roads in Happy Valley are generally two lane roadways.

The key roadways in Happy Valley were measured in various locations to determine typical cross-section widths. Many of the streets within the study area have new sections intermixed with older sections, resulting in ranges of roadway widths depending on location. Figure 3-8 also shows the existing roadway widths.

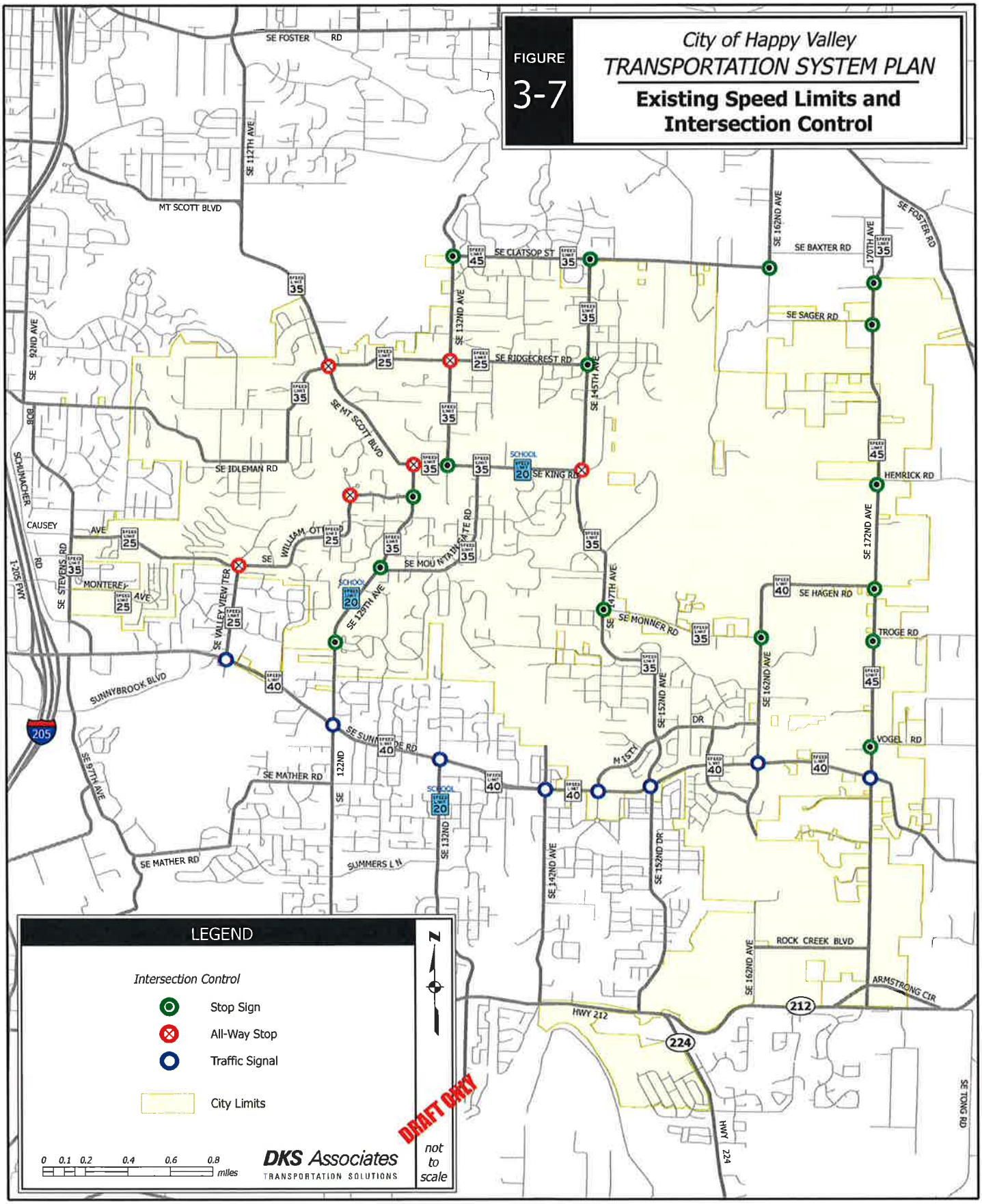


FIGURE
3-7
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Speed Limits and Intersection Control
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
SCHUMACHER RD
I-205 FWY
SE STEVENS RD
CAUSEY AVE
MONTEREY AVE
SUNNYBROOK BLVD
SE 97TH AVE
SE MATHER RD
SE IDLEMAN RD
SE MT SCOTT BLVD
SE WILLIAM OTT RD
SE VALLEY VIEW TER
SE 132ND AVE
SE RIDGECREST RD
SE CLATSOP ST
SE 145TH AVE
SE KING RD
SE MOUNTAIN GATE RD
SE 129TH AVE
SE SUNNYSIDE RD
SE 122ND
SUMMERS LN
SE 147TH AVE
SE MONNER RD
SE 152ND AVE
SE 152ND DR
SE 142ND AVE
SE 162ND AVE
SE BAXTER RD
SE SAGER RD
SE HAGEN RD
SE 170TH AVE
SE FOSTER RD
HEMRICK RD
SE 172ND AVE
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
HWY 224
SE TONG RD
SCHOOL
LEGEND
Intersection Control
Stop Sign
All-Way Stop
Traffic Signal
City Limits
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
DRAFT ONLY
not to scale

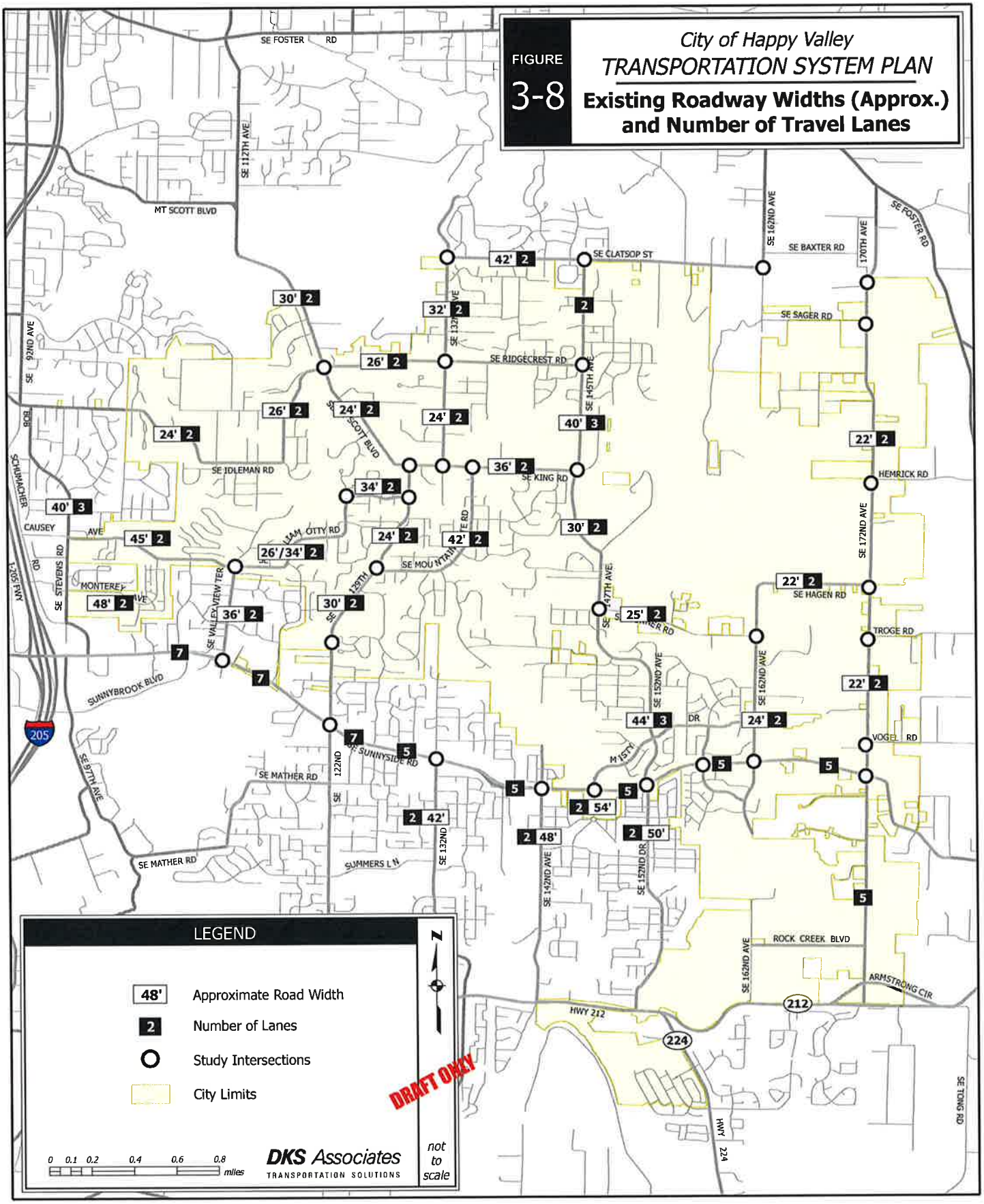


FIGURE 3-8
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Roadway Widths (Approx.) and Number of Travel Lanes
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
BOB SCHUMACHER RD
I-205 FWY
CAUSEY AVE
SE STEVENS RD
MONTEREY AVE
SUNNYBROOK BLVD
205
SE 97TH AVE
SE MATHER RD
SE IDLEMAN RD
SE SCOTT BLVD
SE 129TH AVE
SE VALLEY VIEW TER
SE LIAM OTTY RD
SE MOUNTAIN RD
SE RIDGECREST RD
SE 132ND AVE
SE 122ND AVE
SE SUNNYSIDE RD
SUMMERS LN
SE 132ND AVE
SE CLATSOP ST
SE KING RD
SE 145TH AVE
SE 147TH AVE
SE 142ND AVE
SE 152ND AVE
SE 152ND DR
SE 162ND AVE
SE BAXTER RD
SE SAGER RD
SE 170TH AVE
SE FOSTER RD
HEMRICK RD
SE 172ND AVE
SE HAGEN RD
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
224
SE TONG RD
HWY 224
42' 2
30' 2
32' 2
26' 2
24' 2
40' 3
36' 2
34' 2
45' 2
26'/34' 2
48' 2
30' 2
42' 2
25' 2
44' 3
24' 2
54'
50'
48'
22' 2
LEGEND
48' Approximate Road Width
2 Number of Lanes
Study Intersections
City Limits
N
DRAFT OKEY
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

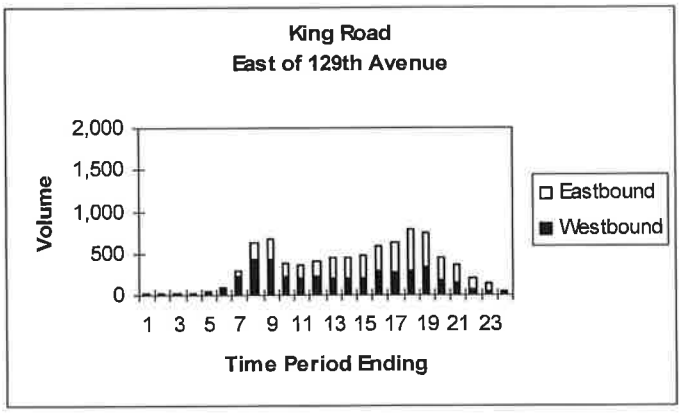
Emergency Response Routes

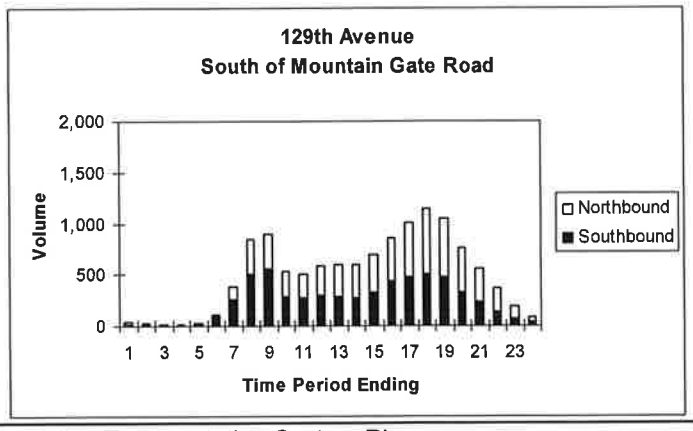
Emergency fire services are provided in Happy Valley by Clackamas County Fire District #1. The Happy Valley fire station is located on the north leg of the KingRoad/129th Avenue intersection. Response times are a high priority for emergency services, as patient care is time-sensitive. Roadway connectivity can play a key role in reducing emergency response times. Generally, restrictive or deflective traffic calming devices (e.g. raised intersections, and diverters) should not be located on primary emergency response routes. Primary emergency response routes include arterial and collector roadways as identified in Figure 8-3. Current Happy Valley design standards for speed cushions provide cut-outs for emergency vehicle tires to reduce impacts to response times.

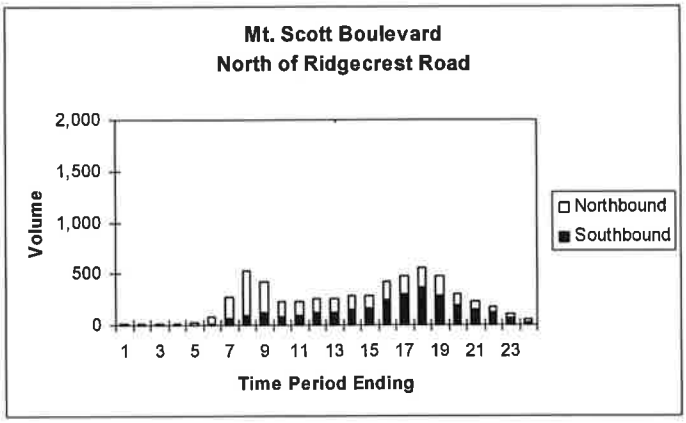
Motor Vehicle Volume

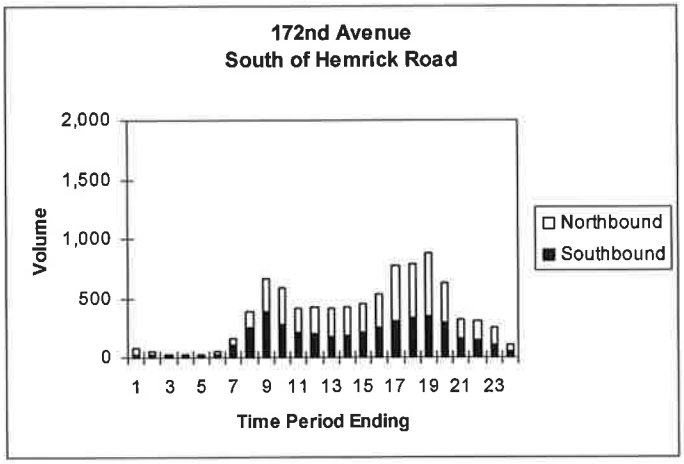
The existing daily traffic volumes on key roadways in the study area are shown in Figure 3-9. Roadway volume surveys were conducted in the spring of 2005 on 129th Avenue, 147th Avenue, King Road and Mt. Scott Boulevard. These counts were conducted after 152nd Avenue north of Sunnyside was opened. Additional roadway volume surveys were conducted in the fall of 2006 on 162nd Avenue and 172nd Avenue. The remaining average daily traffic volumes (ADT) were obtained from Clackamas County 2002 average daily traffic counts.

The volume profiles shown below illustrate the trends of motor vehicle travel for four survey locations. The volume profiles summarize the daily traffic by hour of the day per direction.









Intersection traffic turn movement counts were also obtained at key locations to provide the basis for analyzing existing problem areas as well as establishing a base condition for future comparisons. The City of Happy Valley staff contributed to the selection of the study intersections based on specific areas of concern on major roadways and other issues affecting the residents of the city.

Turn movement counts were conducted at the study intersections in 2005 and 2006 during the weekday evening peak period to determine existing operating conditions. Most of the study intersections experience peak hour volumes between 5:00 and 6:00 PM, with a few intersections exhibiting some variations including: 4:45 to 5:45 PM and 4:35 to 5:35 P.M.

TRAFFIC LEVELS OF SERVICE

Level of Service (LOS) is used as a measure of effectiveness for intersection operation. It is similar to a "report card" rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of Service F represents conditions where demand has exceeded capacity. This condition is typically evident in long queues and delays.

The unsignalized intersection level of service calculation evaluates each movement separately to identify problems (typically left turns from side streets). The calculation is based on the average total delay per vehicle for stop-controlled movements (typically on the minor side street or left turn movements). Level of service (LOS) F indicates that there are insufficient gaps of suitable size to allow minor street traffic to safely enter or cross the major street. This is generally evident by long delays and queuing on the minor street. Level of service F may also result in more aggressive driving, with side street vehicles accepting shorter gaps. It should be noted that the major street traffic moves without delay and the LOS F is for side street or left turns, which may be only a small percentage of the total intersection volume. It is for these reasons that level of service results must be interpreted differently for signalized and unsignalized locations. A summary of the descriptions for level of service is provided in the TSP technical appendix.

The volume to capacity ratio (V/C) is used as a measure of effectiveness for signalized and unsignalized intersection operation. The V/C is calculated by dividing the volume entering the intersection by the total capacity (maximum volume the intersection could serve). The V/C describes the amount of intersection capacity that is utilized by the volume. A V/C of 1.0 suggests there is no available capacity at that intersection and not one more vehicle could be accommodated.

The PM peak hour intersection counts were used to determine the existing level of service based on the *2000 Highway Capacity Manual* methodology. Traffic counts and level of service calculation sheets will be provided in the TSP appendix. The performance standard for signalized intersections is level of service D or better during the peak hour of analysis. The performance standard for unsignalized intersections is level of service E or better (based on average approach delay) for all side street approaches during the peak hour of analysis. Table 3-4 and Figure 3-10 summarizes the existing weekday PM peak hour study intersection operation conditions.

Table 3-4: Existing Weekday Intersection Level of Service (PM Peak Hour)

Intersection	Level of Service	Delay	Volume/ Capacity
Unsignalized Intersections			
172nd Avenue/Hagen Road	A/C	18.1	-
147th Avenue/Monner Road	A/A	9.7	-
162nd Avenue/Monner Road	A/A	8.9	-
145th Avenue/King Road	A	8.4	0.27
145th Avenue/Callahan	A/B	11.2	-
145th Avenue/Clatsop Road	A/A	9.2	-
132nd Avenue /King Road	A/D	29.0	-
132nd Avenue/Ridgecrest Road	A	9.6	0.33
132nd Avenue/Clatsop Road	A/B	10.7	-
122nd Avenue/Spring Mountain Drive	A/D	26.9	-
129th Avenue/Mountain Gate Road	A/E	43.0	-
129th Avenue/William Otty Road	A/C	16.9	-
129th Avenue/King Road/Mt.Scott Boulevard	C	18.4	0.77
William Otty Road/Kimberly Court	A	7.1	0.04
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	B	12.2	0.59
Valley View/William Otty Road	A	7.2	0.10
Clatsop Street/162nd Avenue	B	10.7	-
Vogel Road/172nd Avenue	C	17.2	-
Troge Road/172nd Avenue	B	13.5	-
Hemrick Road/172nd Avenue	C	23.3	-
Sager Road/172nd Avenue	B	10.8	-
170th Avenue (Baxter Road)/172nd Avenue	B	10.4	-
Signalized Intersections			
Sunnyside Road/Valley View Terrace	B	11.8	0.60
Sunnyside Road/122nd Avenue	C	28.8	0.80
Sunnyside Road/132nd Avenue	D	39.8	0.90
Sunnyside Road/142nd Avenue	B	12.2	0.73
Sunnyside Road/147th Avenue	B	13.1	0.62
Sunnyside Road/152nd Avenue	B	13.3	0.68
Sunnyside Road/162nd Avenue	A	9.4	0.20
Sunnyside Road/172nd Avenue	C	26.6	0.30

Notes: A/A=major street LOS/minor street LOS
Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
Unsignalized delay = highest minor street approach delay
*All-way stop control intersection

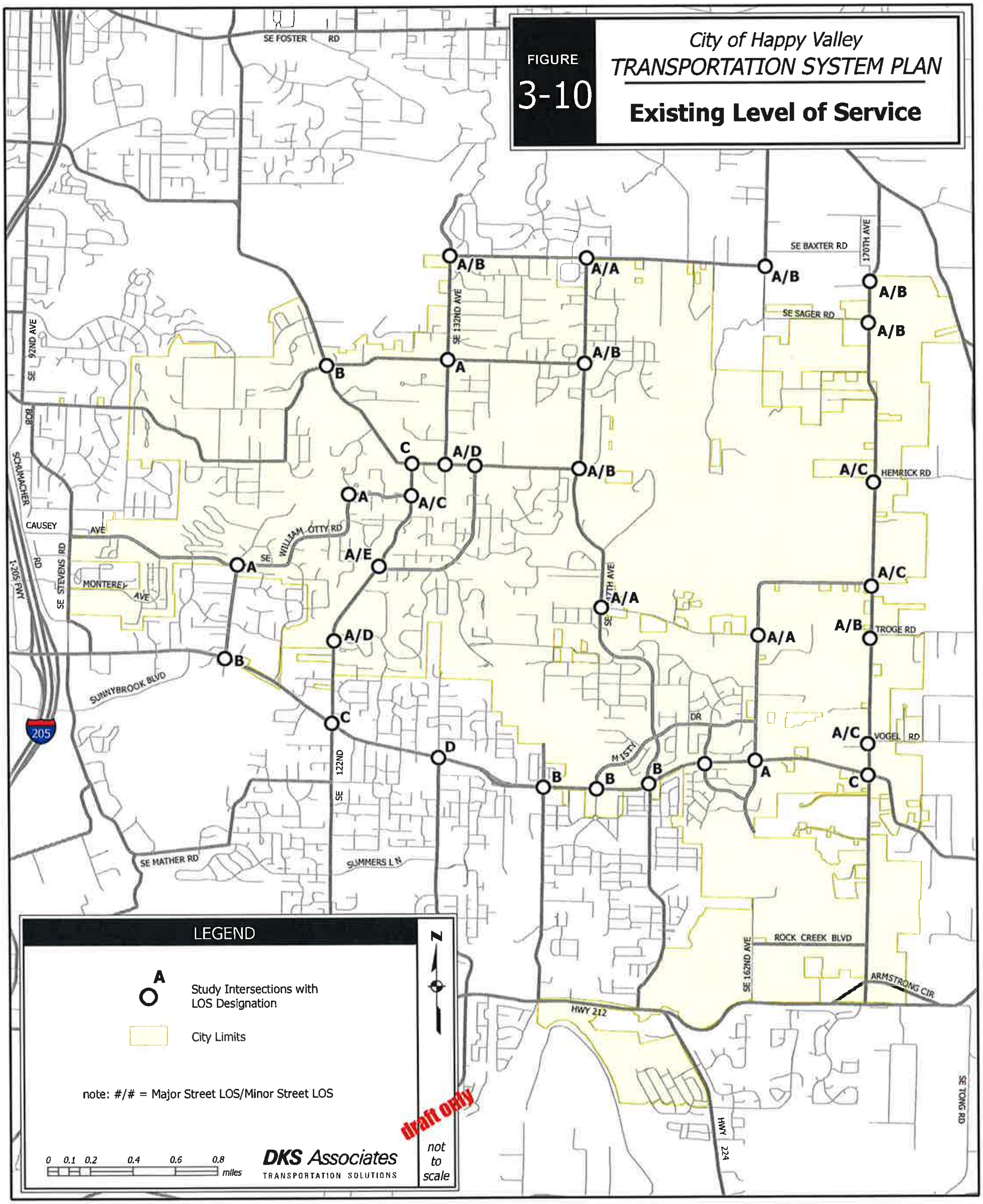


FIGURE
3-10
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Level of Service
SE FOSTER RD
SE BAXTER RD
170TH AVE
SE SAGER RD
SE 132ND AVE
SE 92ND AVE
BOB SCHUMACHER RD
CAUSEY AVE
SE STEVENS RD
I-205 FWY
205
MONTEREY AVE
SE WILLIAM OTTY RD
SE 147TH AVE
HEMRICK RD
TROGE RD
VOGEL RD
SUNNYBROOK BLVD
SE 122ND
MISTY DR
SE MATHER RD
SUMMERS LN
ROCK CREEK BLVD
SE 162ND AVE
ARMSTRONG CIR
HWY 212
HWY 224
SE TONG RD
A/B
A/A
A/B
A/B
A/B
B
A
A/B
C
A/D
A/B
A/C
A
A/C
A/E
A
A/C
A/A
A/D
A/B
A/A
B
C
D
A/C
B
B
B
A
C
LEGEND
A
Study Intersections with LOS Designation
City Limits
note: #/# = Major Street LOS/Minor Street LOS
N
draft only
not to scale
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS

TRAFFIC SAFETY

Collision data was also obtained from the Oregon Department of Transportation for the period from 2003 through 2005 for each of the study area intersections in Happy Valley. Table 3-5 includes collision data for each of the study intersections that had incidents, classified by fatal, non-fatal, and property damage only incidents. The most significant number of collisions occurred at the intersection of Sunnyside Road and 122nd Avenue. Over the most recent three year period, 31 collisions occurred at this intersection. Over half (58%) of these crashes were classified as rear end collisions. Sunnyside Road intersections at 142nd Avenue and Valley View Terrace had the next highest number of crashes, with 6 at each intersection.

The accident rate for each study intersection was calculated to standardize the existing data. The equivalent accident rates per million entering vehicles (MEV) are shown in Table 3-5. A collision rate greater than 1.0 generally indicates a safety-related problem that should be evaluated further. As shown below, all of the calculated accident rates are below 1.0. The collision data is summarized by location in Figure 3-11.

Table 3-5: Intersection Collision Classification

Intersection	Fatal	Non-Fatal	Property Damage Only	Total	Accident Rate*
Sunnyside Road/122nd Avenue	0	16	15	31	0.82
Sunnyside Road/Valley View	0	4	2	6	0.16
Sunnyside Road/142nd Avenue	0	3	3	6	0.29
Sunnyside Road/132nd Avenue	0	2	2	4	0.17
Sunnyside Road/172nd Avenue	0	1	2	3	0.22
Sunnyside Road/162nd Avenue	0	1	2	3	0.28
Sunnyside Road/147th Avenue	0	1	2	3	0.17
129th Avenue/Mountain Gate Road	0	1	1	2	0.15
132nd Avenue/Ridgecrest Road	0	1	1	2	0.29
Hemrick Road/172nd Avenue	0	2	0	2	0.21
147th Avenue/Monner Road	0	0	1	1	0.50
145th Avenue/Callahan Road	0	1	0	1	0.30
162nd Avenue/Monner Road	0	0	1	1	0.77
129th Avenue/King Road/Mt.Scott	0	0	1	1	0.08
Sager Road/172nd Avenue	0	0	1	1	0.14
Clatsop Street/162nd Avenue	0	1	0	1	0.21
Vogel Road/172nd Avenue	0	1	0	1	0.10

*Average annual accidents per million entering vehicles
Note: Based on ODOT collision data from 2001 through 2003.

Happy Valley is characterized by significant changes in elevations on roadways throughout the City. This may have additional safety implications related to sight distance at some of the intersections within the study area.

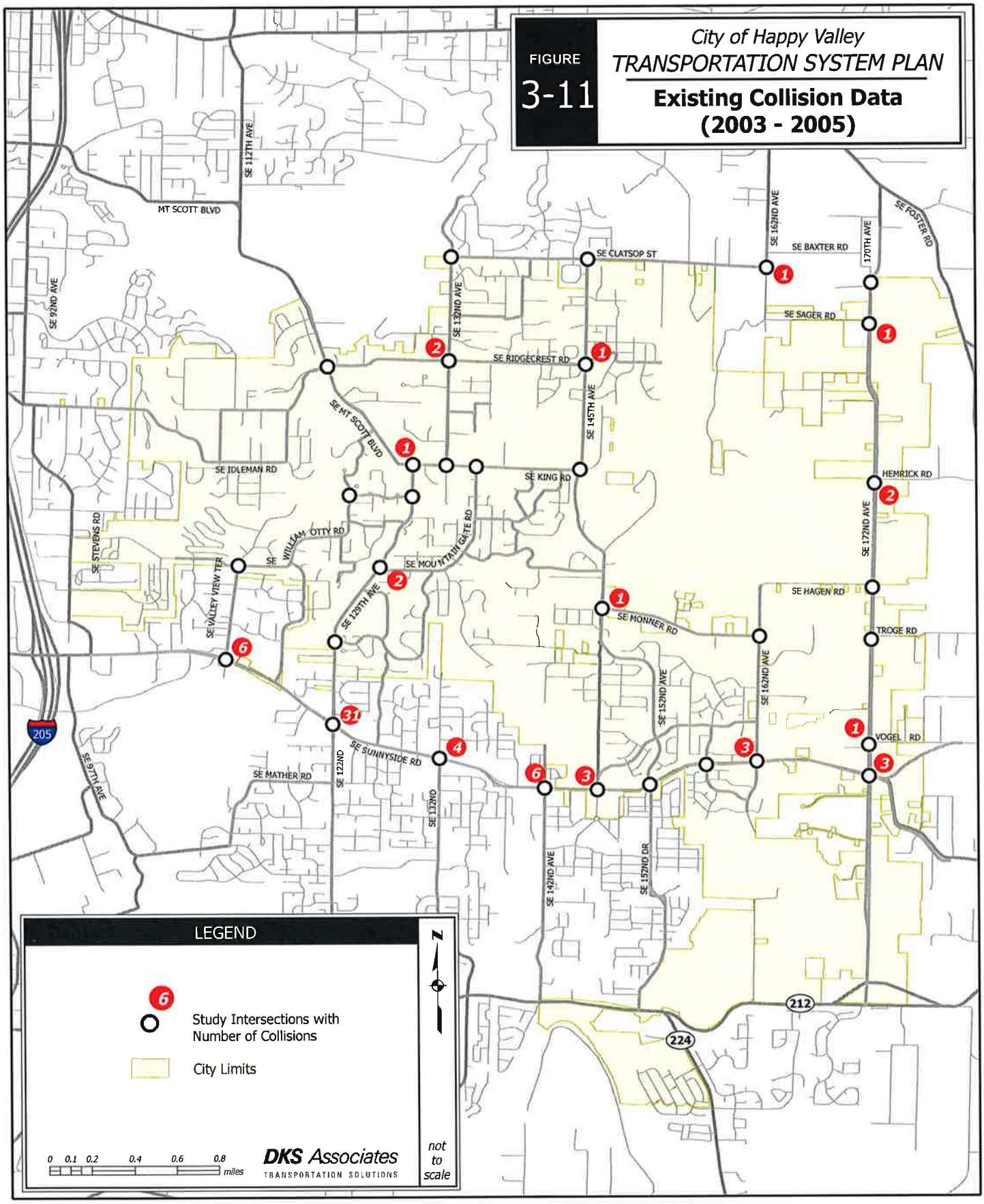


FIGURE
3-11
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Existing Collision Data
(2003 - 2005)
MT SCOTT BLVD
SE 112TH AVE
SE 92ND AVE
SE CLATSOP ST
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
SE 132ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
HEMRICK RD
SE 172ND AVE
SE STEVENS RD
SE WILLAMETTE FALLS DR
SE MOUNTAIN GATE RD
SE VALLEY VIEW TER
SE 129TH AVE
SE MONNER RD
SE HAGEN RD
TROGE RD
SE 152ND AVE
SE 162ND AVE
205
SE 97TH AVE
SE 122ND
SE SUNNYSIDE RD
VOGEL RD
SE MATHER RD
SE 132ND
SE 142ND AVE
SE 152ND DR
212
224
LEGEND
Study Intersections with Number of Collisions
City Limits
N
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

TRUCKS

Heavy vehicle percentages for each intersection were also determined from the traffic counts during the PM peak hour. This count only provides a sampling of truck volumes. Currently, there is a significant amount of heavy vehicle traffic, specifically related to the construction activities taking place in many areas of the City such as Sunnyside Road and near 152nd Avenue. Typically, heavy vehicle traffic is focused on Sunnyside Road with trips traveling through Happy Valley to regional destinations or to adjacent commercial land uses which require freight deliveries. Many streets throughout the city restrict thru truck traffic. Currently, there are no designated freight routes through the City of Happy Valley.

OTHER MODES

No transportation facilities related to other modes of travel, including rail, air and water are located within the TSP study area.

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4. Future Needs and Improvements

Travel Demand and Land Use

The Happy Valley Transportation System Plan (TSP) Update addresses existing system needs and additional facilities that are required to serve future growth in the forecast year 2025. Metro's urban area transportation forecast model was used to determine future traffic volumes in Happy Valley. This forecast model translates assumed land uses into person travel, selects travel modes and assigns motor vehicles to the roadway network. These traffic volume projections form the basis for identifying potential roadway deficiencies and for evaluating alternative circulation improvements. This section describes the forecasting process including key assumptions and the land use scenario developed from the existing Comprehensive Plan designations and allowed densities.

Projected Land Use Growth

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses and how the land uses are mixed together have a direct relationship to expected demands on the transportation system. Understanding the amount and type of land use is critical to taking actions to maintain or enhance transportation system operation.

Projected land uses were developed for the study area and reflect the Comprehensive Plan and Metro's land use assumptions for the year 2025. Complete land use data sets were developed for the following conditions.

- Existing 2005 Conditions (base travel forecast for the region)
- Future 2025 Conditions

The following sections summarize the forecasted growth that will influence travel within Happy Valley.

Growth within Happy Valley

The base year travel model is updated periodically and for this study effort, the available base model provided by Metro was for year 2005. This land use database includes the number of dwelling units, retail employees and other employees. Table 4-1 summarizes the land uses for the 2005 base and future 2025 scenarios within the Happy Valley TSP study area. The land use summarized in Table 4-1 is roughly bounded by 172nd Avenue to the east, Clatsop Street to the north, I-205 to the west, Sunnyside Road to the south west of 152nd Avenue and Highway 212 to the south east of 152nd Avenue.

These land use projections are significantly higher than the previous 2015 forecasts due to the additional 10 years of growth and the expanded TSP study area. A detailed summary of the land uses for each Transportation Analysis Zone (TAZ) within the Happy Valley study area is provided in the technical appendix.

Table 4-1: Happy Valley TSP Study Area Land Use Summary

Land Use	2005	2025	Increase	Percent Increase
Households	5,610	21,150	15,540	277%
Retail Employees	1,088	1,970	882	81%
Other Employees	3,171	8,384	5,213	164%

At the existing level of land development, the transportation system generally operates without significant motor vehicle deficiencies in the study area. As land uses are changed in proportion to each other (i.e. there is a significant increase in employment relative to household growth), there will be a shift in the overall operation of the transportation system. Retail land uses generate higher amounts of trips per acre of land than households do and other land uses. The location and design of retail land uses in a community can greatly affect transportation system operation. Additionally, if a community is homogeneous in land use character (i.e. all employment or residential), the transportation system must support significant trips coming to or from the community rather than within the community. Typically, there should be a mix of residential, commercial, and employment type land uses so that some residents may work and shop locally, reducing the need for residents to travel long distances.

As shown in Table 4-1, the future 2025 land use indicates significant growth in both housing and employment within the TSP study area. The portion of Happy Valley bounded loosely by Clatsop Street to the north, 145th Avenue to the east, Mountain Gate Road and Alta Vista Drive to the south and the west City limits is expected to experience moderate growth in the next 20 years. The majority of this growth is additional housing with minimal employment growth. The major growth areas are the Rock Creek Area located south of Sunnyside Road between 152nd Avenue and 172nd Avenue and the Scouter Mountain Area bounded by 145th Avenue, 172nd Avenue, Clatsop Street, Monner Road and Hagen Road. The transportation system should be monitored to make sure that land uses in the plan are balanced with transportation system capacity. This TSP balances transportation needs with the forecasted 2025 land uses.

For transportation forecasting, the land use data is stratified into geographical areas called transportation analysis zones (TAZs), which represent the sources of vehicle trip generation. There are approximately 18 Metro TAZs within the Happy Valley TSP Update study area. These 18 TAZs were subdivided, as part of this plan, into approximately 105 TAZs to more specifically represent land use and access to the transportation system in Happy Valley. The disaggregated model zone boundaries are shown in Figure 4-1.

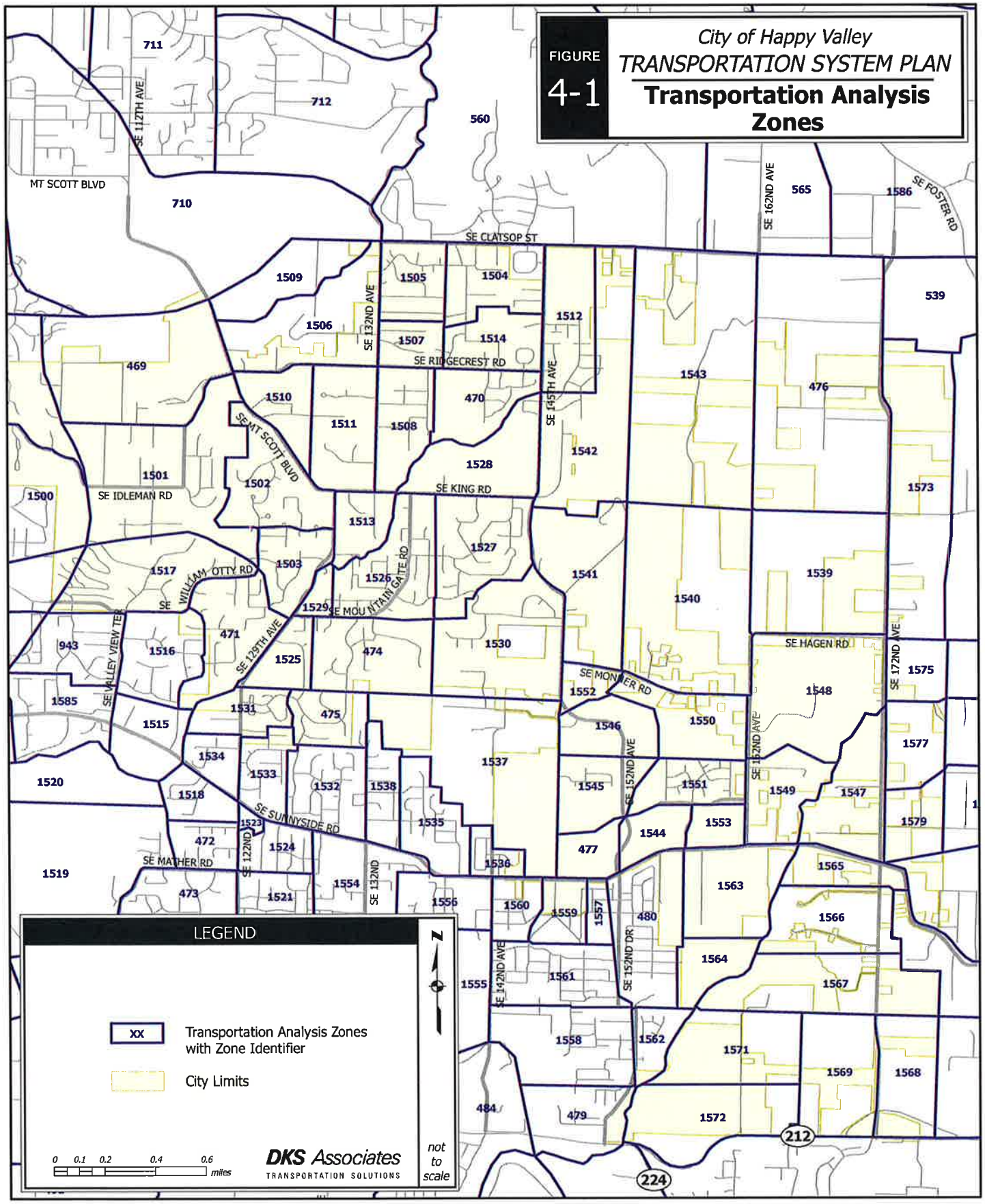
FIGURE 4-1
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Transportation Analysis Zones
711
712
560
710
565
1586
539
1509
1505
1504
1506
1507
1514
1512
469
1543
476
1510
470
1511
1508
1542
1528
1501
1500
1502
1573
1513
1527
1503
1517
1526
1541
1539
1540
1529
471
1516
943
474
1530
1525
1575
1585
1531
475
1552
1548
1515
1546
1550
1534
1537
1577
1520
1533
1532
1538
1545
1551
1549
1547
1518
1523
1535
1553
1579
472
1524
1544
477
1519
1536
1565
473
1521
1554
1556
1560
1559
1557
480
1563
1566
1564
1555
1561
1567
1558
1562
1571
1569
1568
484
479
1572
212
224
MT SCOTT BLVD
SE 112TH AVE
SE CLATSOP ST
SE 162ND AVE
SE FOSTER RD
SE 132ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE VALLEY VIEW TER
SE 129TH AVE
SE HAGEN RD
SE 172ND AVE
SE MONNER RD
SE 152ND AVE
SE SUNNYSIDE RD
SE 122ND
SE MATHER RD
SE 132ND
SE 142ND AVE
SE 152ND DR
LEGEND
XX
Transportation Analysis Zones with Zone Identifier
City Limits
N
0 0.1 0.2 0.4 0.6 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

Growth East of Happy Valley

An important aspect of growth is the recent expansions to the Urban Growth Boundary east of Happy Valley that are now being planned for urban growth. The most significant planned areas are Pleasant Valley, Springwater, and Damascus/Boring. The Pleasant Valley Master Plan was recently approved by the City of Gresham as well as the City of Happy Valley, which is particularly focused on "Area C" located south of the Multnomah/Clackamas County boundary. The total development planned for Pleasant Valley is 5,000 housing units and about 5,000 jobs. The master plan development for Springwater is expected to conclude in late 2005, and the land use mix currently expects about 18,000 new jobs with about 2,000 residential households. In addition, Clackamas County is currently developing urban plans for the East Happy Valley, Damascus and Boring areas, which include over 25,000 new residential households and 1,600 acres of employment within the planning horizon of this TSP. Taken together, the combination of recent UGB expansions east of Happy Valley will have a significant influence on travel demands within Happy Valley, in terms of through traffic on the arterial facilities and the development of more local employment centers closer to the city.

Metro Area Transportation Model

A determination of future traffic system needs in Happy Valley requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the City. The objective of the transportation planning process is to provide the information necessary for making decisions on when and where improvements should be made to the transportation system to meet travel demand as developed in an urban area travel demand model as part of the Regional Transportation Plan update process. Metro uses EMME/2, a computer based program for transportation planning, to process the large amounts of data for the Portland Metropolitan area. For the Happy Valley TSP, the regional 2025 travel demand model associated with the 2004 RTP was used to develop future forecasts.

Traffic forecasting can be divided into several distinct but integrated components that represent the logical sequence of travel behavior (see Figure 4-2). These components and their general order in the traffic forecasting process are as follows:

- Trip Generation
- Trip Distribution
- Mode Choice
- Traffic Assignment

The initial roadway network used in the traffic model was the existing streets and roadways. Future 2025 land use scenarios were tested and roadway improvements were added to mitigate the impacts of motor vehicle traffic growth, using the RTP Priority System and the 2015 Happy Valley TSP improvements as a starting basis. Improvements in each of these plans (the RTP and TSP) were validated in the study process. Forecasts of PM peak period traffic flows were produced for every major roadway segment within Happy Valley. Traffic volumes were projected on all arterials and most collector streets. Some local streets were included in the model, but many are represented by centroid connectors in the model process.

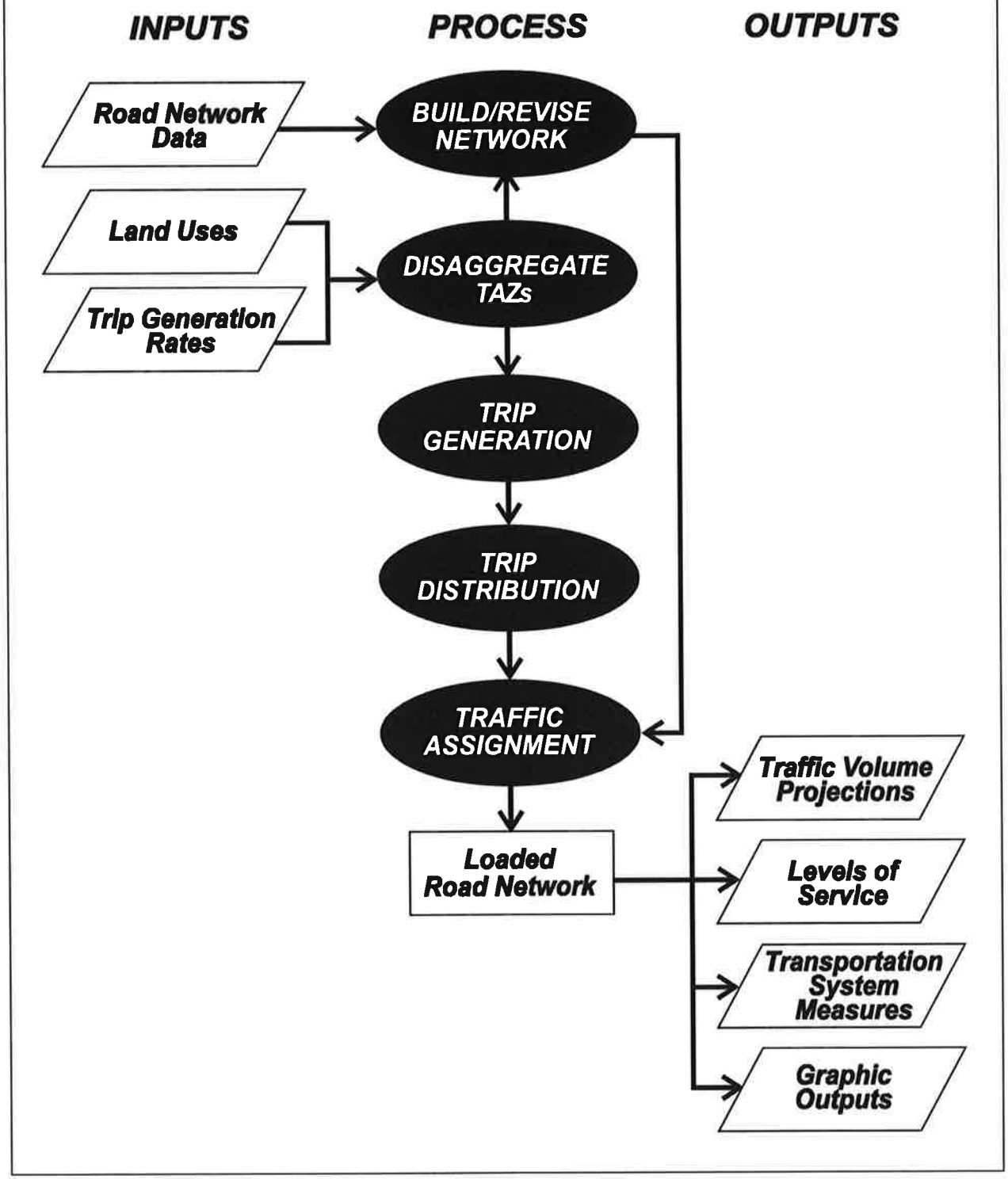

Figure 4-2
MODEL PROCESS

Trip Generation

The trip generation process translates land use quantities (number of dwelling units, retail, and other employment) into vehicle trip ends (number of vehicles entering or leaving a TAZ or sub-TAZ) using trip generation rates established during the model verification process. The Metro trip generation process is elaborate, entailing detailed trip characteristics for various types of housing, retail employment, non-retail employment, and special activities. Typically, most traffic impact studies rely on the Institute of Transportation Engineers (ITE) research for analysis[1]. The model process is tailored to variations in travel characteristics and activities in the region.

Table 4-2 illustrates the estimated growth in vehicle trips generated within the Happy Valley TSP study area during the PM peak period between 2005 and 2025. It indicates that vehicle trips in Happy Valley would grow by approximately 147 percent between 2000 and 2025 if the land develops according to Metro's 2025 land use assumptions. Assuming a 20-year horizon to the 2025 scenario, this represents annualized growth rate of about 4.5 percent per year.

Table 4-2: Happy Valley Vehicle Trip Generation (1-Hour PM Period)

	2005 Trips	2025 Trips	Percent Increase
Happy Valley TSP Update Study Area	12,100	29,000	140%

Trip Distribution

This step estimates how many trips travel from one zone in the model to any other zone. Distribution is based on the number of trip ends generated in each zone pair and on factors that relate the likelihood of travel between any two zones to the travel time between zones. In projecting long-range future traffic volumes, it is important to consider potential changes in regional travel patterns. Although the locations and amounts of traffic generation in Happy Valley are essentially a function of future land use in the city, the distribution of trips is influenced by regional growth. External trips (trips that have either an origin and not a destination in Happy Valley or have a destination but not an origin in Happy Valley) and through trips (trips that pass through Happy Valley and have neither an origin nor a destination in Happy Valley) were projected using trip distribution patterns based upon census data and traffic counts performed at gateways into the Metro area Urban Growth Boundary (UGB) calibration.

Mode Choice

This step determined how many trips will be by various modes (single-occupant vehicle, transit, carpool, pedestrian, bicycle, etc.). The 2005 mode splits are incorporated into the base model and adjustments to that mode split may be made for the future scenario, depending on any expected changes in transit or carpool use. These considerations are built into the forecasts used for 2025.

[1] *Trip Generation Manual*, 7th Edition, Institute of Transportation Engineers, 2003.

Traffic Assignment

In this process, trips from one zone to another are assigned to specific travel routes in the network, and resulting trip volumes are accumulated on links of the network until all trips are assigned.

Network travel times are updated to reflect the congestion effects of the traffic assigned through an equilibrium process. Congested travel times are estimated using what are called "volume-delay functions" in EMME/2. There are different forms of volume/delay functions, all of which attempt to simulate the impact of congestion on travel times (greater delay) as traffic volume increases. The volume-delay functions take into account the specific characteristics of each roadway link, such as capacity, speed and facility type. This allows the model to reflect conditions somewhat similar to driver behavior.

Model Verification

The base 2005 modeled traffic volumes were compared against actual traffic volume counts across screenlines, on key arterials and at key intersections. Most arterial traffic volumes meet screenline tolerances for forecast adequacy. Based on this performance, the model was used for future forecasting and assessment of circulation changes.

Model Application to Happy Valley

Intersection turn movements were extracted from the model at key intersections for both the base year 2005 and forecast year 2025 scenarios. These intersection turn movements were not used directly, but a portion of the increment of the year 2025 turn movements over the 2005 turn movements was applied (added) to existing (actual 2005 and 2006) turn movement counts in Happy Valley. A post processing technique is utilized to refine model travel forecasts to the volume forecasts utilized for 2025 intersection analysis. The turn movement volumes used for future year intersection analysis can be found in the technical appendix.

5. Pedestrian Plan

This chapter summarizes existing and future pedestrian needs in the City of Happy Valley. The following sections identify the policies for implementing a pedestrian plan, evaluate needs and recommend a pedestrian plan for the City of Happy Valley. The policies used in evaluating pedestrian needs were identified through work with the City's Citizen Advisory Committee.

Policies

Several policies were developed for future pedestrian facilities in Happy Valley. These policies are aimed at providing the City with priorities to direct its funds towards pedestrian projects that meet the goals of the City.

The policies for pedestrian facilities are:

- Policy 1b: Encourage pedestrian accessibility by providing safe, secure and desirable pedestrian routes.
- Policy 3b: Sidewalks must be constructed on all streets within Happy Valley (with construction or reconstruction projects). All schools, parks, public facilities and retail areas shall have direct access to a sidewalk.
- Policy 3c: Bicycle and pedestrian plans shall be developed which link to existing and planned recreational trails.
- Policy 3g: Improve pedestrian access to transit as service demands increase in the future.
- Policy 3h: Pursue the expansion of the regional and local trail system with new development.
- Policy 3i: Implement regional alternative mode share targets to reduce the reliance on single-occupancy vehicles.
- Policy 3j: Neighborhoods shall be connected to minimize out of direction travel for pedestrians and bicycles. This is achieved with a well developed local street system and off-street trail system.
- Policy 4b: Safe and secure routes to schools shall be designated for each school and any new residential project shall identify the safe path to school for children.
- Policy 4c: Safe and secure pedestrian and bikeways shall be designed between parks and other activity centers in Happy Valley.
- Policy 6a: Design and construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

Needs

Arterial and collector streets in Happy Valley provide a limited sidewalk inventory (see Figure 3-2). Sidewalks are provided in many newer residential neighborhoods, but are limited in older neighborhoods creating poor connectivity throughout the city. Gaps within the sidewalk and trail network discourage pedestrians and put them at an increased safety risk by requiring them to share the roadway with vehicles in certain locations. Hilly topography throughout the City also contributes to poor sight distances and further justification for providing safe pedestrian facilities separate from the roadway. These conditions result in a poor existing pedestrian network.

An important existing pedestrian need in Happy Valley is providing sidewalks on all arterial and collector roadways and providing a connection from residential areas to bus stops, schools, parks and shopping centers. This includes the need for safe, well lighted arterials and collector streets with suitable pedestrian amenities and crossing facilities to reduce the barriers for pedestrian travel. Pedestrian facility needs in Happy Valley must consider the three most prevalent trip types:

- Residential based trips – home to school, home to home, home to retail, home to park, home to transit, home to entertainment
- Service based trips – multi-stop retail trips, work to restaurant, work to services, work/shop to transit
- Recreational based trips – home to park, exercise trips, casual walking trips

Residential trips need a set of interconnected sidewalks radiating out from homes to destinations within one-half to one mile. Beyond these distances, walking trips of this type become substantially less common (over 20 minutes). Service based trips require direct, conflict-free connectivity between uses (for example, a shopping mall with its central spine walkway that connects multiple destinations). Service based trips need a clear definition of connectivity. This requires mixed use developments to locate front doors which relate directly to the public right-of-way and provide walking links between uses within one-half mile. Recreational walking trips have different needs. Off-street trails, well landscaped sidewalks and relationships to unique environment (creeks, trees, farmland) are important.

The most common need is to provide a safe and interconnected system that affords the opportunity to consider the walking mode of travel, especially for trips less than one mile in length.

Facilities

Sidewalks should be built to current design standards of the City of Happy Valley and in compliance with the Americans with Disabilities Act (at least four feet of unobstructed sidewalk).[1] Wider sidewalks are desirable to promote pedestrian travel on all roadways. Additional pedestrian facilities may include accessways, pedestrian districts and pedestrian plazas.

- Accessway – A walkway that provides pedestrian and/or bicycle passage either between streets or from a street to a building or other destinations such as a school, park or transit stop.
- Pedestrian District – A plan designation or zoning classification that establishes a safe and convenient pedestrian environment in an area planned for a mix of uses likely to support a relatively high level of pedestrian activity.

[1] *Americans with Disabilities Act*, Uniform Building Code.

- Pedestrian Plaza – A small, semi-enclosed area usually adjoining a sidewalk or a transit stop which provides a place for pedestrians to sit, stand or rest.

Metro 2004 Regional Transportation Plan (RTP) identifies Sunnyside Road, 122nd/129th and 172nd Avenue with a pedestrian designation as transit/mixed use corridors. The RTP defines transit/ mixed-use corridors as priority areas for pedestrian travel that are served by good quality transit service and that will generate substantial pedestrian traffic near neighborhood-oriented retail development, schools, parks, and bus stops. These corridors should include such design features as wide sidewalks with buffering from traffic, pedestrian-scale lighting, benches, bus shelters, and street trees.

The street cross-sections in chapter 8 of this TSP provide pedestrian facilities. Typical roadways include five foot wide sidewalks on both sides of the road along a five foot wide landscape strip with street trees. The local commercial cross-section (Figure 8-7B), to be used adjacent to commercial, mixed-use residential and mixed-use employment land uses, includes 12 foot wide sidewalks with street trees in tree wells to encourage pedestrian trips. The hillside collector cross-section (Figure 8-5A), to be used on the future 162nd Avenue along the base of Scouter Mountain, includes a twelve foot wide pedestrian path on the downhill side of the roadway to accommodate recreational pedestrian use.

Recommended Pedestrian Master Plan

To meet transportation performance standards and serve future growth, the future transportation system needs multi-modal improvements to manage the forecasted travel demand. The extent of the recommended multi-modal improvements for Happy Valley is significant. Future growth can be accommodated with significant investment in transportation improvements.

A list of potential pedestrian projects to meet the identified needs and achieve these policies was developed into a Pedestrian Master Plan. The Master Plan shown in Figure 5-1 and summarized in Table 5-1 is an overall plan and summarizes the 'wish list' of pedestrian related projects in Happy Valley. These projects will be used to create a Pedestrian Action Plan. The Action Plan consists of projects that the City should give priority to in funding. As development occurs, streets are rebuilt and other opportunities (grant programs) arise, projects on the Master Plan should be pursued as well.

Several regional trail projects are recommended in this transportation system plan. Although these future trails would be utilized by both pedestrians and bicyclists, the proposed lengths of the trails suggest that the bicycle transportation network would benefit more from the proposed trails. Therefore, the regional trail projects are included in the Bicycle Master Plan (Table 6-1). The regional trails are shown on Figure 5-1 to illustrate the complete future pedestrian system.

The planning level cost estimates provided are based on general unit costs for transportation improvements, but do not reflect the unique project elements that can significantly add to project costs. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued.

Table 5-1: Pedestrian Master Plan Projects

Priority	Project	Location/Side	From	To	Cost ($1,000s)
Sidewalks on Existing Arterials and Collectors					
High	Ridgecrest Road	South	132nd Avenue	Parkwood Way	$110
High	Ridgecrest Road	South	150 feet east of Parkwood Way	110 feet west of Plover Dr	$100
High	King Road	North	132nd Avenue	175 feet west of Regina Ct	$130
High	King Road	North	Rolling Meadows Drive	145th Avenue	$50
High	King Road	South	175 feet east of 132nd Avenue	130 feet west of Mountain Gate Road	$40
High	King Road	South	Mountain Gate Road	155 feet east of Regina Court	$90
High	King Road	South	129th Avenue	132nd Avenue	$90
High	145th Avenue	West	King Road	550 feet south of Purple Finch Loop	$25
High	132nd Avenue	East	King Road	90 feet north	$10
High	132nd Avenue	East	Parkside Drive	335 feet south	$40
High	132nd Avenue	East	Ridgecrest Road	350 feet south	$40
High	122nd /129th Avenue	East	150 feet north of Mountain Gate Road	Scott Creek Lane	$140
High	147th Avenue	West	Krause Lane	Monner Road	$70
Medium	172nd Avenue North	East/West	Sunnyside Road	Clatsop Street	$2,690
Medium	Mt. Scott Boulevard	East/West	Ridgecrest Road	129th Avenue	$730
Medium	Ridgecrest Road	North/South	Mt. Scott Boulevard	132nd Avenue	$650
Medium	132nd Avenue	East	Ridgecrest Road	145 feet north of Lucille St	$160
Medium	132nd Avenue	West	Ridgecrest Road	Callahan Road	$60
Medium	132nd Avenue	West	Clatsop Street	305 feet north of Callahan Road	$160
Medium	132nd Avenue	West	Ridgecrest Road	Wellington Court	$60
Medium	132nd Avenue	West	King Road	130 feet south of Wellington Court	$180
Medium	Clatsop Street	South	160 feet east of 138th Drive	220 feet east of 141st Court	$150
Medium	145th Avenue	East	Clatsop Street	180 feet north of Northern Heights Drive	$70
Medium	145th Avenue	East	140 feet north of Wallowa Way	290 feet south of Northern Heights Drive	$20
Medium	Valley View Terrace	East	100 feet north of Sunnyside Road	125 feet north of Cascade View Court	$190
Medium	Valley View Terrace	West	William Otty Road	Niklas Lane	$160
Medium	Valley View Terrace	West	Spruce View Lane	120 feet north	$15
Low	145th Avenue	East	King Road	310 feet south of Denali Dr	$170
Low	Ridgecrest Road	North	132nd Avenue	700 feet east	$75
Low	Mt. Scott Boulevard	East	Northern city limits	Ridgecrest Road	$50
Low	122nd/129th Avenue	West	390 feet north of Sunnyside Road	Scott Creek Lane	$520
Low	122nd/129th Avenue	West	King Road	330 feet north of Scott Creek Lane	$120

Priority	Project	Location/Side	From	To	Cost ($1,000s)
Low	Idleman Road	North	Western City limits	220 feet west of Hillside Ct	$360
Low	Idleman Road	North	Mt. Scott Blvd	180 feet east of Hillsdale Ct	$330
Low	Idleman Road	South	310 feet east of Nichole Ln	Tumberry Loop	$180
Low	Idleman Road	South	Solomon Court	Mt. Scott Blvd	$300
Low	147th Avenue	East	King Road	190 feet south	$20
Low	147th Avenue	East	300 feet south of King Road	Monner Road	$360
Low	Clatsop Street	North	147th Avenue	162nd Avenue	$400
Low	Clatsop Street	South	145th Avenue	162nd Avenue	$470
Low	162nd Avenue	East	Sunnyside Road	Hagen Road	$460
Low	162nd Avenue	West	235 feet north of Palermo Avenue	Hagen Road	$240
Low	162nd Avenue	West	Misty Drive	Palermo Avenue	$380
Local/Neighborhood Street Sidewalk Infill					
Low	Kanne Road	Both	132nd Avenue	139th Avenue	$280
Low	139th Avenue	Both	Kanne Road	Portland View Place	$210
Low	139th Avenue Ext	Both	Kanne Road	Ridgecrest Road	$110
Low	City View Drive	Both	Tyler Road	Ridgeway Drive	$260
Low	Ridgeway Drive	Both	City View Drive	Eastview Drive	$260
Low	Eastview Drive	Both	Ridgeway Drive	Tyler Road	$260
Low	Parkside Estates N/S Roadway	Both	King Road	Ridgecrest Road	$590
Low	Peggy Way	Both	Valley View Terrace	William Otty Road	$180
Low	Lucille Street	Both	132nd Avenue	137th Avenue	$280
Low	137th Avenue	Both	Kanne Road	Portland view Place	$210
Low	Valemont Lane	Both	132nd Avenue	East end of Street	$210
Low	Portland View Place	Both	137th Avenue	145th Place	$440
Low	140th Place	Both	Portland View Place	Clatsop Street	$110
Low	Lucille Street	Both	139th Avenue	145th Avenue	$340
Low	Clover Lane	Both	Idleman Road	End of Street	$270
Low	Lenore Street	Both	Valley View Terrace	West end of Street	$330
Low	Hillside Drive	Both	Idleman Road	South end of Street	$250
Low	Aldridge Road	Both	147th Avenue	West end of Street	$500
Low	Eastbourne Lane	Both	Aldridge Road	Existing Sidewalk	$160
Low	Hilltop Court	Both	Hillside Drive	East end of Street	$130
Low	Walnut Drive	Both	Idleman Road	Tyler Road	$270
Low	Tyler Road	Both	Walnut Drive	Idleman Road	$550
Low	Dorset Lane	Both	Idleman Road	Cresthill Road	$70
Low	Cresthill Road	Both	Dorset Lane	Sichel Way	$150
Sidewalks on New Arterials/Collectors					
Johnson Creek Road Extension		Both	Mt. Scott Boulevard	132nd Avenue	**
Clatsop Street Extension West		Both	162nd Avenue	177th Avenue	**

Priority	Project	Location/Side	From	To	Cost ($1,000s)
Clatsop Street Extension East		Both	Idleman Road	North City Limits	**
162nd Avenue Extension North		Both	Hagen Road	Clatsop Street	**
162nd Avenue Extension South		Both	157th Avenue	Highway 212	**
Sager Road		Both	172nd Avenue	Foster Road	**
Scouter Mountain East Roadway #1		Both	162nd Avenue	Foster Road	**
Scouter Mountain East Roadway #2		Both	162nd Avenue	177th Avenue	**
Hemrick Road Extension		Both	162nd Avenue	177th Avenue	**
Scouter Mountain Road		Both	147th Avenue	177th Avenue	**
Troge Road Extension		Both	162nd Avenue	177th Avenue	**
169th Avenue Extension		Both	Sunnyside Road	177th Avenue	**
Misty Drive Extension		Both	162nd Avenue	177th Avenue	**
Rock Creek Court Extension		Both	172nd Avenue	177th Avenue	**
Creekwood Road Extension		Both	172nd Avenue	177th Avenue	**
Rock Creek Boulevard		Both	Sunrise Corridor Rock Creek Interchange	177th Avenue	**
Rock Creek East-West Collector		Both	162nd Avenue	177th Avenue	**
Parklane Loop		Both	162nd Avenue	Rock Creek Collector	**
167th Avenue		Both	Rock Creek Boulevard	Rock Creek Collector	**
177th Avenue		Both	Scouter Mountain East Roadway #1	Armstrong Circle	**
	Sidewalks on Existing Arterials and Collectors				$10,665
	Local/Neighborhood Street Sidewalk Infill				$6,420
	Sidewalks on New Arterials/Collectors				$**
	Total Pedestrian Master Plan Projects				**$17,085**

**These project costs are included in a motor vehicle plans.

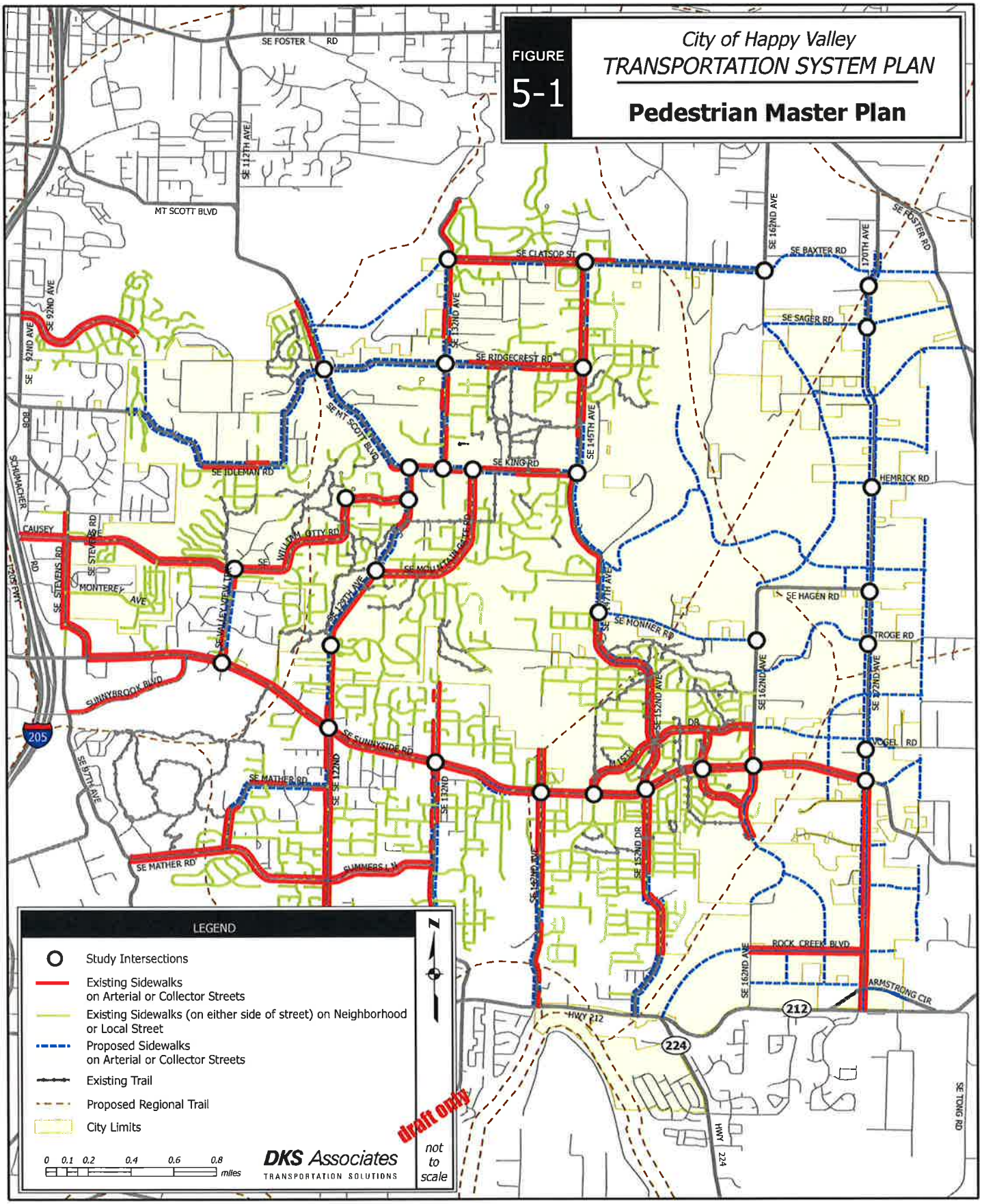
FIGURE
5-1
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Pedestrian Master Plan
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
SE 82ND AVE
BOB SCHUMACHER RD
CAUSEY AVE
SE STEVENS RD
I-205 FWY
MONTEREY AVE
SUNNYBROOK BLVD
205
SE 97TH AVE
SE IDLEMAN RD
SE MT SCOTT BLVD
SE RIDGECREST RD
SE 132ND AVE
SE KING RD
SE 145TH AVE
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE 129TH AVE
SE VALLEY VIEW DR
SE SUNNYSIDE RD
SE 122ND
SE MATHER RD
SUMNERS LN
SE 132ND
SE 142ND AVE
SE CLATSOP ST
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
HEMRICK RD
SE HAGEN RD
SE MONNER RD
SE 147TH AVE
SE 152ND AVE
SE 152ND DR
SE 145TH
TROGE RD
SE 172ND AVE
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Study Intersections
Existing Sidewalks on Arterial or Collector Streets
Existing Sidewalks (on either side of street) on Neighborhood or Local Street
Proposed Sidewalks on Arterial or Collector Streets
Existing Trail
Proposed Regional Trail
City Limits
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
N
draft only
not to scale

Pedestrian Action Plan

The pedestrian action plan identifies projects that are reasonably expected to be funded by 2025, which meets the requirements of the updated TPR[2]. The TSP goals and policies were used to rank the projects. The highest ranking City projects that are reasonably expected to be funded (see Chapter 10) were combined with projects identified in the RTP Financially Constrained scenario and projects with anticipated funding from other agencies to create the list shown in Table 5-2.

Table 5-2: Pedestrian Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue North Sidewalks**	Construct sidewalks on both sides of the roadway from Sunnyside Road to Clatsop Street. Provide signalized pedestrian crossings at all traffic signals.	Joint SDC Fund	2021-2025	$2,690
122nd/129th Avenue**	Construct sidewalks on both sides of the street from Sunnyside Road to King Road	Joint SDC Fund	2016-25	$780
162nd Avenue Sidewalks	Construct sidewalks on both sides of the roadway from Clatsop Street to Hwy 212.	Joint SDC Fund	-	$2,810
Clatsop Street Sidewalks	Construct sidewalks on both sides of the roadway from 162nd Ave to 172nd Ave.	Joint SDC Fund	-	$420
Ridgecrest Road Sidewalks	Construct sidewalks on the south side from 132nd Ave to Plover Dr.	Happy Valley	2010-2020	$220
132nd Avenue Sidewalks	Construct sidewalks on the east side of the roadway from King Road to Ridgecrest Road.	Happy Valley	2010-2020	$80
145th Avenue Sidewalks	Construct sidewalks on the west side of the roadway from King Road to Purple Finch Loop.	Happy Valley	2010-2020	$180
King Road Sidewalks	Construct sidewalks on the north side of the roadway from 132nd Avenue to 175 feet west of Regina Court	Happy Valley	2010-2020	$130
King Road Sidewalks	Construct sidewalks on the north side of the roadway Rolling Meadows Drive to 145th Avenue	Happy Valley	2010-2020	$50
			City of Happy Valley Costs	$660
			Joint SDC Fund	$6,700
			Total Pedestrian Project Costs	**$7,360**

** Project identified in the 2004 Federal Regional Transportation Plan Update Financially Constrained scenario.

Plan Implementation

Address Gaps in Pedestrian System

In an effort to provide adequate pedestrian infrastructure, developers in the City of Happy Valley are required to build sidewalks on project frontages. However, developers often have little means or incentive to extend sidewalks beyond their property. Additionally, property owners without sidewalks are unlikely to independently build sidewalks that do not connect to anything. In fact, some property owners are resistant to sidewalk improvements due to cost (they do not want to pay)

[2] *OAR Chapter 660*, Department of Land Conservation and Development, Division 012, Transportation Planning, adopted on March 15, 2005, effective April 2005.

or changes to their frontage (they may have landscaping in the public right-of-way). As an incentive to fill some of these gaps concurrent with development activities, the City could consider an annual walkway fund that would supplement capital improvement-type projects. A fund of about $20,000 per year could build over 600-feet of sidewalk annually to help fill gaps. If matching funds were provided, over double this amount may be possible. The fund could be used several ways:

- Matching other governmental transportation funds to build connecting sidewalks identified in the master plan.
- Matching funds with land use development projects to extend a developer's sidewalks off-site to connect to non-contiguous sidewalks.
- Supplemental funds to roadway projects which build new arterial/collector sidewalks to create better linkages into neighborhoods.
- Matching funds with adjacent land owners that front the proposed sidewalk.
- Reimbursement agreements with developers

Complementing Land Use Actions

Land use actions enable significant improvements to the pedestrian system to occur. A change in land use from vacant or under utilized land creates two key impacts to the pedestrian system:

- Added vehicle trips that conflict with pedestrian flows
- Added pedestrian volume that requires safe facilities

The above mentioned impacts require mitigation to maintain a safe pedestrian system. Pedestrians walking in the traveled way of motor vehicles are exposed to potential conflicts that can be minimized or removed entirely with sidewalk installation. The cost of a fronting sidewalk to an individual single family home would be roughly $1,000 to $2,000 (representing less than one percent of the cost of a house). Over a typical 50-year life of a house, this would represent less than $50 per year assuming that cost of money is 4% annually. This cost is substantially less than the potential risk associated with the cost of an injury accident or fatality without safe pedestrian facilities (injury accidents are likely to be $10,000 to $50,000 per occurrence and fatalities are $500,000 to $1,000,000). Sidewalks are essential for the safety of elderly persons, the disabled, transit patrons and children walking to school, a park or a neighbor's house. No area of the city can be isolated from the needs of these users (not residential, employment areas or shopping districts). Therefore, fronting improvements including sidewalks are required on every change in land use or roadway project.

For any developing or redeveloping property in Happy Valley, the cost savings to the private developer is the only benefit of not providing sidewalks – at the potential risk and future expense to the public. Therefore, sidewalks are required in Happy Valley with all new development and roadway projects.

Developments should be responsible for providing a pedestrian connection from the site main entrance to the public right-of-way. Also, buildings should be sited to be supportive and convenient to pedestrians, bicyclists and transit riders. This is most critical for residential, commercial and public service (library, community center) developments where higher pedestrian volumes would be expected. Pedestrian circulation through large parking lots should generally be provided in the form of accessways. Conflict free paths and traffic calming elements should be identified, as appropriate.

It is important that, as new development occurs, connections or accessways are provided to link the development to the existing pedestrian facilities in as direct manner as possible. As a guideline, the sidewalk distance from the building entrance to the public right-of-way should not exceed 1.25 times the straight line distance.

It is also very important that residential developments consider the routes that children will use to walk to school. Safe and accessible sidewalks should be provided to accommodate these routes, particularly within one mile of a school site.

6. Bicycle Plan

This chapter summarizes existing and future facility needs for bicycles in the City of Happy Valley. The following sections identify the policies for implementing a bikeway plan, evaluate needs and recommend a bikeway plan for the City of Happy Valley. The policies used in evaluating bicycle needs were identified through work with the City's Citizen Advisory Committee.

Policies

Several policies were considered for construction of future bikeway facilities in Happy Valley. These policies are aimed at providing the City with priorities since it is likely that the available funding will be insufficient to address all of the projects identified in the Bikeway Master Plan.

The policies for bicycle facilities are:

- Policy 3a: Bicycle lanes must be constructed on all arterials and collectors within Happy Valley (with construction or reconstruction projects). All schools, parks, public facilities and retail areas shall have direct access to a bikeway.
- Policy 3c: Bicycle and pedestrian plans shall be developed which link to existing and planned recreational trails.
- Policy 3h: The City will pursue the expansion of the regional and local trail system with new development.
- Policy 3i: Implement regional alternative mode share targets to reduce the reliance on single-occupancy vehicles.
- Policy 3j: Neighborhoods shall be connected to minimize out of direction travel for pedestrians and bicycles. This is achieved with a well developed local street system and off-street trail system.
- Policy 4c: Safe and secure pedestrian and bikeways shall be designed between parks and other activity centers in Happy Valley.

Needs

The existing bike lane system on arterial and collector streets does not provide adequate connections from neighborhoods to schools, parks, retail centers, or transit stops (see Figure 3-3). Continuity and connectivity are key issues for bicyclists and the lack of facilities (or gaps) cause significant problems for bicyclists in Happy Valley. Without connectivity of the bicycle system, this mode of travel is severely limited.

Local streets do not require dedicated bike facilities since the lower motor vehicle volumes and speeds typically allow for both autos and bikes to share the roadway. Cyclists desiring to travel through the City generally either share the roadway with motor vehicles on major streets or find alternate routes on lower volume local streets. There are several major streets without on-street bike facilities that are used by cyclists due to a lack of alternative routes. These include 122nd Avenue/129th Avenue, Mt. Scott Boulevard and Idleman Road.

The major designated on-street bike facilities (striped bike lane) within the study area are Sunnyside Road (I-205 to 172nd Avenue) and 172nd Avenue (Sunnyside Road to Highway 212). Additional bike lanes are provided (some intermittently) along 122nd/129th Avenue, King Road, 145th Avenue, Mountain Gate Road and Clatsop Street within the Happy Valley City limits.

Bicycle trips are different from pedestrian and motor vehicle trips. Common bicycle trips are longer than walking trips and generally shorter than motor vehicle trips. Where walking trips are attractive at lengths of a quarter mile (generally not more than a mile), bicycle trips are attractive up to three miles. Bicycle trips can generally fall into three groups: commuting, activity-based and recreational. Commuter trips are typically home/work/home (sometimes linking to transit) and are made on direct, major connecting roadways and/or local streets. Bicycle lanes provide good accommodations for these trips. Activity based trips can be home-to-school, home-to-park, home-to-neighborhood commercial or home-to-home. Many of these trips are made on local streets with some connections to arterials and collectors. Their needs are for lower volume/speed traffic streets, safety and connectivity.

Recreational trips share many of the needs of both the commuter and activity-based trips, but create greater needs for off-street routes, connections to rural routes and safety. Typically, recreational bike trips will exceed the normal bike trip length.

Facilities

Bicycle ways can generally be categorized as bike lanes, bicycle accommodation, or off-street bike paths/multi-use trails. Bike lanes are areas within the street right-of-way designated specifically for bicycle use. Federal research has indicated that bike lanes are the most cost effective and safe facilities for bicyclists when considering all factors of design. Bicycle accommodations are where bicyclists and autos share the same travel lanes, including a wider outside lane and/or bicycle boulevard treatment (priority to through bikes on local streets). Multi-use paths are generally off-street routes (typically recreationally focused) that can be used by several transportation modes, including bicycles, pedestrians and other non-motorized modes (i.e. skateboards, roller blades, etc.). Wide sidewalks (greater than eight feet wide) can also be considered as multi-use paths. The term bikeway is used in this plan to represent any of the bicycle accommodations described above. The bicycle plan designates where bike lanes and multi-use paths are anticipated and any other bicycle ways are expected to be bike accommodations (i.e. shared with motor vehicles).

Bicycle lanes adjacent to the curb are preferred to bicycle lanes adjacent to parked cars or bicycle lanes combined with sidewalks. Five or six-foot bicycle lanes are recommended. Provision of a bicycle lane not only benefits bicyclist but also motor vehicles which gain greater shy distance/emergency shoulder area and pedestrians which gain buffer between walking areas and moving vehicles. Off-street trails and sidewalks that are constructed under a curb tight basis should be planned for 12 feet in width, which is desirable for mixed-use activity (pedestrian and bike). Signing and marking of bicycle lanes should follow the *Manual on Uniform Traffic Control Devices*. Design features in the roadway can improve bicycle safety. For example, using curb storm drain inlets rather than catch basins significantly improves bicycle facilities.

The Metro 2004 Regional Transportation System Plan (RTP) identifies the following corridors within the regional bicycle system:

• Sunnyside Road	Regional on-street bikeway
• 122nd/129th Avenue	Regional on-street bikeway
• Mt. Scott Boulevard	Regional on-street bikeway
• Idleman Road	Community connector bikeway
• Mt. Scott Trail	Proposed regional corridor off-street bikeway
• East Buttes Power Line Trail	Proposed regional corridor off-street bikeway
• Scouter Mountain Trail	Proposed regional corridor off-street bikeway

A regional corridor bikeway provides point-to-point connections between the central city, regional centers, and larger town centers. They generally carry higher automobile speeds and volumes than community connector bikeways. By complying with the RTP designation, the Happy Valley Bicycle Master Plan is consistent with plans developed by Metro and Clackamas County.

Metro has also proposed the Mt. Scott Trail, Scouter Mountain Trail and East Buttes Power Line Trail projects as a conceptual part of the regional trails and greenways system. The East Buttes Power Line Corridor Trail was identified in the Pleasant Valley Concept Plan. The proposed regional trails within the study area are shown on the Bicycle Master Plan (Figure 6-1) and described below. The location of the regional trails are conceptual. Before decisions are made about specific trail alignment and appropriate use, there will be a master planning process and many opportunities for public involvement.

Mt. Scott Trail – Proposed as a trail that would extend north from Mt. Talbert to join the Springwater Corridor near Powell Butte. It would cross over Mt. Scott and follow Johnson Creek before intersecting with the Springwater Corridor.

Scouter Mountain Trail – Proposed to connect Powell Butte at the Springwater Corridor to Scouter Mountain to the south and back again to the Springwater Corridor further to the east.

East Buttes Power Line Trail – This trail would connect from the Springwater Corridor south to the Clackamas River Greenway following an existing power line right of way. It also would connect to the southern end of the Gresham to Fairview Trail.

Recommended Bicycle Master Plan

To meet transportation performance standards and serve future growth, the future transportation system needs multi-modal improvements to manage the forecasted travel demand. The extent of the recommended multi-modal improvements for Happy Valley is significant. Future growth can be accommodated with significant investment in transportation improvements.

A list of potential bicycle projects to meet the identified needs and achieve these strategies was developed into a Bicycle Master Plan. The Master Plan shown in Figure 6-1 and summarized in Table 6-1 is an overall plan and summarizes the 'wish list' of bicycle related projects in Happy Valley, providing a long-term map for planning bicycle facilities. These projects will be used to create an updated Bicycle Action Plan. The Action Plan consists of projects that the City should give priority to in funding. As development occurs, streets are rebuilt and other opportunities (such as grant programs) arise, projects on the Master Plan should be pursued as well. Additional local facilities such as bike lanes, bike routes, off-street trails and crossing enhancements recommended in this plan extend beyond the regional scope of the RTP.

The planning level cost estimates provided are based on general unit costs for transportation improvements, but do not reflect the unique project elements that can significantly add to project costs. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued.

Table 6-1: Bicycle Master Plan Projects

Priority	Project	Location	From	To	Cost ($1,000s)
Bike Lanes on Existing Arterials & Collectors					
High	145th Avenue	East/West	Wallowa Way	Clatsop Street	$250
High	145th Avenue	East/West	King Road	Purple Finch Loop	$260
High	147th Avenue	East	King Road	Monner Road	$290
High	147th Avenue	West	Alta Vista Drive	Monner Road	$70
High	King Road	North/South	129th Avenue	Regina Court	$350
Medium	Mt. Scott Boulevard	East/West	Northern City limits	129th Avenue	$800
Medium	132nd Avenue	West	King Road	Clatsop Street	$400
Medium	132nd Avenue	East	Clatsop Street	Geneva Way	$350
Medium	172nd Avenue North	East/West	Sunnyside Road	Clatsop Street	$1,920
Medium	162nd Avenue	East/West	Sunnyside Road	Hagen Road	$660
Medium	122nd /129th Avenue	West	Sunnyside Road	King Road	$530
Medium	122nd /129th Avenue	East	Mountain Gate Road	Scott Creek Lane	$110
Low	Valley View Terrace	East/West	Sunnyside Road	William Otty Road	$360
Low	Ridgecrest Road	North/South	Mt. Scott Boulevard	132nd Avenue	$470
Low	Ridgecrest Road	North/South	132nd Avenue	145th Avenue	$510
Low	Idleman Road	North/South	Western City Limit	Mt.Scott Boulevard	$1,130
Low	William Otty Road	North/South	Valley View	129th Avenue	$870
Low	Monner Road	North/South	147th Avenue	162nd Avenue	$390
Bike Lanes on New Arterials & Collectors					
Johnson Creek Road Extension		Both	Mt. Scott Boulevard	132nd Avenue	**
Clatsop Street Extension West		Both	162nd Avenue	177th Avenue	**
Clatsop Street Extension East		Both	Idleman Road	North City Limits	**
162nd Avenue Extension North		Both	Hagen Road	Clatsop Street	**
162nd Avenue Extension South		Both	157th Avenue	Highway 212	**
Sager Road		Both	172nd Avenue	Foster Road	**
Scouter Mountain East Roadway #1		Both	162nd Avenue	Foster Road	**
Scouter Mountain East Roadway #2		Both	162nd Avenue	177th Avenue	**
Hemrick Road Extension		Both	162nd Avenue	177th Avenue	**
Scouter Mountain Road		Both	147th Avenue	177th Avenue	**
Troge Road Extension		Both	162nd Avenue	177th Avenue	**
169th Avenue Extension		Both	Sunnyside Road	177th Avenue	**
Misty Drive Extension		Both	162nd Avenue	177th Avenue	**
Rock Creek Court Extension		Both	172nd Avenue	177th Avenue	**
Creekwood Road Extension		Both	172nd Avenue	177th Avenue	**

Priority	Project	Location	From	To	Cost ($1,000s)
Rock Creek Boulevard		Both	Sunrise Corridor Rock Creek Interchange	177th Avenue	**
Rock Creek East-West Collector		Both	162nd Avenue	177th Avenue	**
Parklane Loop		Both	162nd Avenue	Rock Creek Collector	**
167th Avenue		Both	Rock Creek Boulevard	Rock Creek Collector	**
177th Avenue		Both	Scouter Mountain East Roadway #1	Armstrong Circle	**
Regional Multi-Use Trail					
East Buttes Power Line Trail			Springwater/Gresham-Fairview Trail	Clackamas Greenway	$6,800
Mt. Scott Creek Trail			Mt. Talbert	Springwater corridor	$5,100
Scouter's Mountain Trail			Springwater/Powell Butte	Springwater corridor	$9,100
			Bike Lanes on Existing Arterials & Collectors		$9,720
			Bike Lanes on New Arterials & Collectors		$**
			Regional Multi-Use Trail		$21,000
			Total Bicycle Master Plan Projects		**$30,720**

**These project costs are included in a motor vehicle plan.

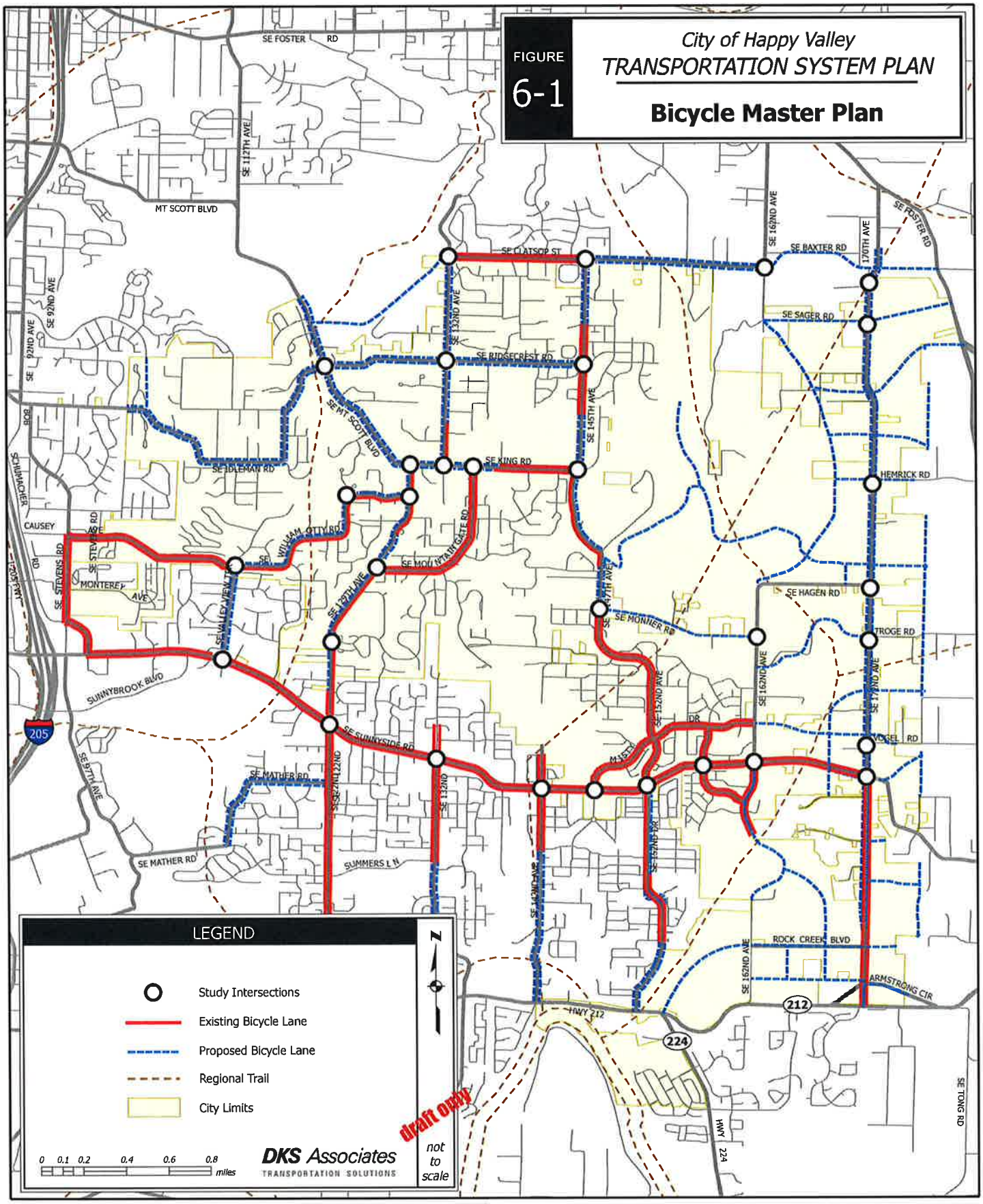
FIGURE
6-1
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Bicycle Master Plan
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
SE 82ND AVE
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
HEMRICK RD
SCHUMACHER
CAUSEY
SE STEVENS RD
SE STEVENS RD
MONTEREY AVE
SE VALLEY VIEW TER
SE 129TH AVE
SE MOUNTAIN GATE RD
SE 147TH AVE
SE MONTIER RD
SE HAGEN RD
TROGE RD
SUNNYBROOK BLVD
205
SE SUNNYSIDE RD
SE 152ND AVE
SE 172ND AVE
VOGEL RD
SE 87TH AVE
SE MATHER RD
SE 122ND
SE 132ND
SE 152ND DR
SUMMERS LN
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Study Intersections
Existing Bicycle Lane
Proposed Bicycle Lane
Regional Trail
City Limits
N
draft only
not to scale
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS

Bicycle Action Plan

A bicycle system action plan project list was created to identify bicycle projects that are reasonably expected to be funded by the year 2025, which meets the requirements of the updated Transportation Planning Rule[1]. The TSP goals and policies were used to rank the bicycle projects. The highest ranking City projects that are reasonably expected to be funded (see Chapter 10) were combined with projects identified in the RTP Financially Constrained scenario and projects with anticipated funding from other agencies to create the project list shown in Table 6-2.

Table 6-2: Bicycle Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue North Bike Lanes*	Construct bike lanes on both sides of the roadway from Sunnyside Road to Clatsop Street.	Joint SDC Fund	2021-2025	$1,920
122nd/129th Avenue*	Construct bike lanes on both sides of the street from Sunnyside Road to King Road	Joint SDC Fund	2016-25	$640
162nd Avenue Bike Lanes	Construct bike lanes on both sides of the roadway from Monner Road to Clatsop Street and Sunnyside Road to Highway 212.	Joint SDC Fund	-	$2,430
Clatsop Street Bike Lanes	Construct bike lanes on both sides of the roadway from 162nd Avenue to 172nd Avenue.	Joint SDC Fund	-	$300
145th/147th Avenue Bike Lanes*	Construct bike lanes on both sides of the roadway from Clatsop Street to Monner Road.	Metro/Other	2010-2015	$1,040
162nd Avenue Bike Lanes*	Construct bike lanes on both sides of the roadway from Monner Road to Sunnyside Road.	Metro/Other	2016-2025	$390
			City of Happy Valley Costs	$0
			Joint SDC Fund	$5,290
			Other Agencies	$1,430
			Total Bicycle Project Costs	**$6,720****

* Project identified in the 2004 Federal Regional Transportation Plan Financially Constrained scenario.
**These project costs are included in a motor vehicle action plan.

Plan Implementation

It is important that, as new development occurs, connections or accessways are provided to link the development to the existing bicycle and pedestrian facilities in as direct manner as is reasonable. If a development fronts a bikeway or sidewalk (as shown in the Bicycle or Pedestrian Master Plans), the developer shall be responsible for providing the bikeway or walkway facility as part of any half-street improvement required for project mitigation.

[1] *OAR Chapter 660*, Department of Land Conservation and Development, Division 012, Transportation Planning, adopted on March 15, 2005, effective April, 2005.

7. Transit Plan

This chapter summarizes existing and future transit needs in the City of Happy Valley. The following sections outline the policies used to evaluate needs and the recommended transit plan for the City of Happy Valley. The method used to develop the transit plan combined TriMet, city staff and other agencies input.

Policies

Several policies were developed for future transit facilities in Happy Valley. These policies are aimed at providing the City with priorities to direct its funds towards transit projects that meet the goals of the City. The policies for transit facilities are:

- Policy 3d: The City shall coordinate with TriMet to improve transit service in Happy Valley. Fixed route transit will use arterial and collector streets in Happy Valley. Park & Ride lots will be provided to accommodate concentrated transit demands where feasible.
- Policy 3g: Improve pedestrian access to transit as service demands increase in the future.
- Policy 3i: Implement regional alternative mode share targets to reduce the reliance on single-occupancy vehicles.
- Policy 6a: Design and construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

Needs

TriMet (Tri-County Metropolitan Transportation District of Oregon) is the regional transit provider for the Portland metro area and operates three bus routes within Happy Valley today, #155, #156, and #157 (see Figure 7-1). Bus route #157 serves Happy Valley north of Sunnyside Road. Bus route #155 serves Sunnyside Road with connections to Clackamas Town Center. Bus route #156 serves areas south of Sunnyside Road. Within the City of Happy Valley there are currently no park and ride lots.

TriMet's Transit Investment Plan[1] (TIP) identifies strategies for meeting regional public transit needs, focusing on improvements to the total transit system, such as improvements on existing lines. Therefore the TIP focuses on targeted, strategic improvements to the system, including:

- Maintain the quality of the existing system
- Expand the high capacity transit system (commuter rail, light rail or bus rapid transit)
- Expand the Frequent Service system
- Improve local service

[1] *Transit Investment Plan* TriMet, 2003.

The quality of transit service within Happy Valley can be characterized by the following indicators:

- Transit route coverage,
- Frequency,
- Reliability, and
- User amenities

The following sections present the analysis and findings for each of these service characteristics, and identify potential needs for future transit service improvements in Happy Valley.

Transit Coverage

The minimum land use density[2] required to support a fixed route transit bus service with 1-hour scheduled between arrivals is about four housing units per acre or three employees per acre. Figure 7-1 shows those areas in Happy Valley that meet this transit supportive density threshold with the 2025 development forecasts, as well as the transit coverage area represented by a 0.25 mile radius from transit stops. This future 2025 transit coverage assessment serves as a general indication of transit demand corridors. The location and density of actual future development will ultimately determine transit service needs.

In general, about a third of the future 2025 transit supportive areas are currently covered with transit service. The residential areas roughly bordered by Sunnyside Road, 147th Avenue, Monner Road and 172nd Avenue show a potential need for future transit coverage. The Pleasant Valley area located northeast of the 162nd Avenue/Clatsop Street intersection also shows a demand for future transit coverage. The remaining portions of the City either are supported by transit service today or have forecasted land use not expected to meet the density thresholds in 2025. It is important to continue TriMet's LIFT Program and Ride Connection operated by the American Red Cross to areas within the City not supported by transit service. By law, TriMet must offer ADA complementary service such as LIFT within three-quarters of a mile from a fixed transit route.

Transit coverage can also be improved by providing adequate access to transit service. Typically, the recommended transit stop spacing[3] in urban areas is approximately 780 to 1,000 feet. Today, the bus stops on Sunnyside Road are located approximately 1,000-feet to 1,800-feet apart. As development occurs and ridership demand increases, the bus stop spacing on Sunnyside Road will be reduced but not spaced so closely as to compete with each other, increasing overall travel times for transit riders.

Several transit service recommendations will be submitted to TriMet. The recently annexed Rock Creek Area located south of Sunnyside Road between 152nd Avenue and 172nd Avenue is expected to develop as a major employment center with a need for future transit coverage. Bus route #10 currently provides service from downtown Portland to Foster Road at 122nd Avenue. An extension of this bus route will be considered further east on Foster Road, south on 172nd Avenue, west on Highway 212 with a returning loop to 172nd Avenue through the major employment center.

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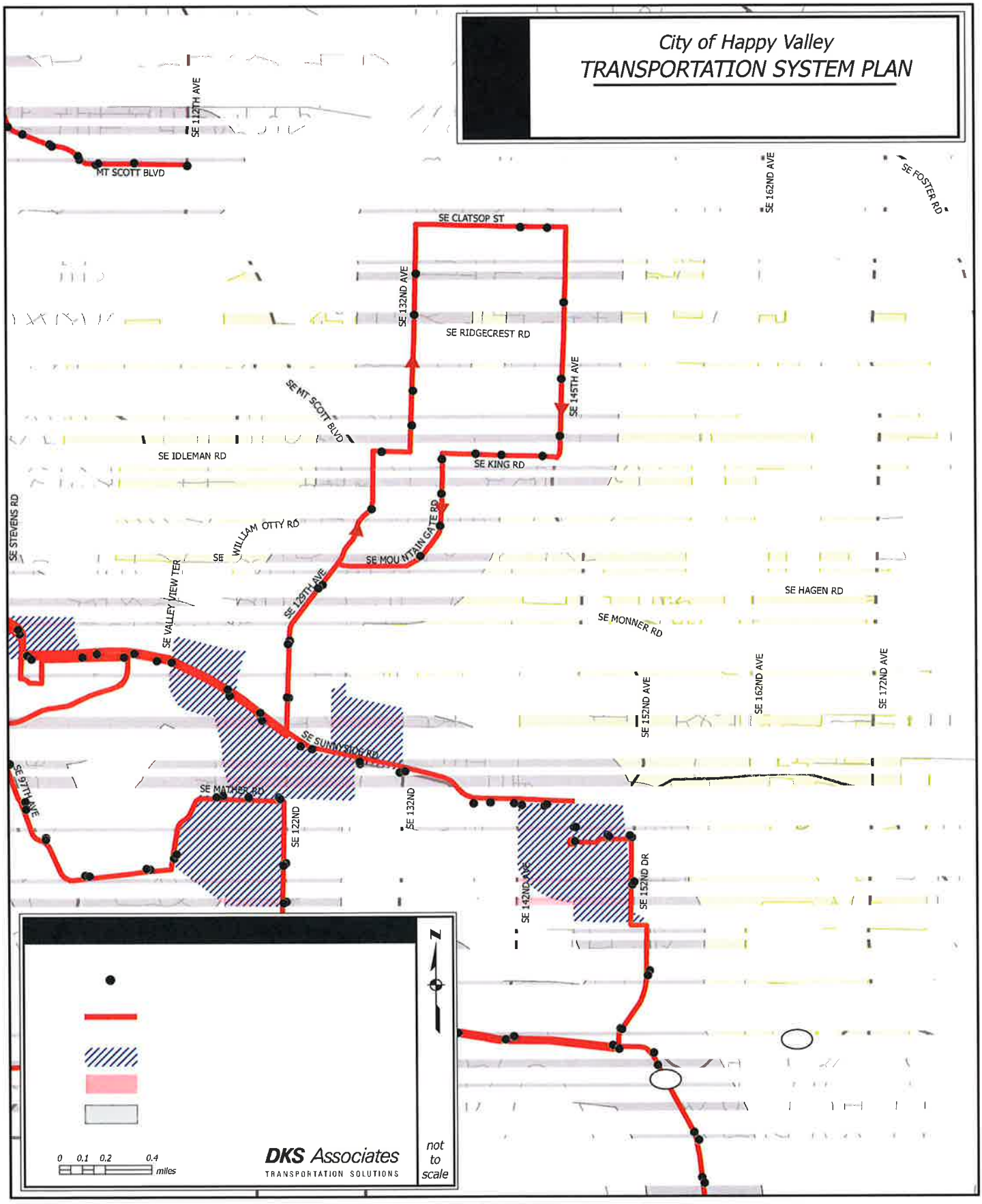
[2] Thresholds for minimum land use density to support fixed-route transit service are based on definitions in the 2000 *Highway Capacity Manual*, Chapter 27 for transit service analysis methodologies.

[3] Bus Stop Guidelines 2002, TriMet, October 2002.


City of Happy Valley
TRANSPORTATION SYSTEM PLAN
SE 112TH AVE
MT SCOTT BLVD
SE 162ND AVE
SE FOSTER RD
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
SE STEVENS RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE VALLEY VIEW TER
SE 129TH AVE
SE HAGEN RD
SE MONNER RD
SE 152ND AVE
SE 162ND AVE
SE 172ND AVE
SE SUNNYSIDE RD
SE 97TH AVE
SE MATHER RD
SE 122ND
SE 132ND
SE 142ND AVE
SE 152ND DR
0 0.1 0.2 0.4 miles
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not to scale

Bus route #155 currently provides service on Sunnyside Road west to 162nd Avenue. An extension of this bus route will be considered to the east in increments as new development occurs along Sunnyside Road.

Bus route #157 has relatively low ridership today with less than 50 boardings per day. The future demand for transit service in the area is not expected to increase enough to continue service on the same route. However, the residential areas near 147th Avenue and 152nd Avenue north of Sunnyside Road to King Road show a transit supportive density that would warrant future transit service. Bus route #157 will be recommended for reconfiguration to remove service from Mountain Gate Road, 132nd Avenue, 145th Avenue (north of King Road) and Clatsop Street and provide service on 122nd Avenue/129th Avenue, King Road and 145th Avenue (south of King Road), Misty Drive and 152nd Avenue.

Much of Happy Valley is currently located outside the designated TriMet district. The district is located west of 147th Avenue between Clatsop Street and Sunnyside Road and west of 162nd Avenue between Sunnyside Road and Highway 212. The TriMet district boundary will be extended to the east to 177th Avenue to include all of Happy Valley. This would allow for the future expansion of transit service in the City and the collection of transit revenue. A portion of the payroll taxes collected by the Oregon Department of Revenue are allocated to mass transit. The current rate[4] is $6.518 per $1,000 of the wages paid by an employer within the TriMet district.

Transit Frequency

In addition to providing service to a geographic area, transit route frequency is a measure of transit quality of service and mode attractiveness. As development occurs within the study area and transit demand increases, bus service frequency will be increased to every 15 to 30 minutes, first during the peak period but over time if warranted by density and ridership demand.

Transit Reliability

Transit service reliability is a key performance characteristic for retaining riders. Congested roadways, bottlenecks and traffic signals can delay transit vehicles and cause transit vehicles to arrive off schedule and close together. In the future, the Sunnyside Road and 172nd Avenue transit corridors will be faced with numerous traffic signal control delays and forecasted congestion.

A bus rapid transit system (BRT) can significantly improve bus operations, reliability and travel times for a modest capital investment. A BRT utilizes buses in service that are integrated with key components of the existing automobile transportation infrastructure, such as roads and rights-of-way, intersections and traffic signals. It allows for incremental construction and implementation and can be easily tailored to meet the specific transportation needs and opportunities within individual neighborhoods and transportation corridors.

Specific elements of a Bus Rapid Transit system include:

- Bus lanes – A lane on an urban arterial or city street is reserved for the exclusive or near-exclusive use of buses. Allows buses to avoid traffic congestion.
- Bus signal priority– Preferential treatment of buses at intersections can involve the extension of green time or actuation of the green light at signalized intersections upon detection of an approaching bus. Intersection priority can be particularly helpful when

[4] Information provided on trimet.org, Payroll and Self-Employment Tax Information, June 2007.

implemented in conjunction with bus lanes or streets, because general-purpose traffic does not intervene between buses and traffic signals.

- Traffic management improvements – Low-cost infrastructure elements that can increase the speed and reliability of bus service include bus boarding islands and curb realignments to minimize time lost by buses merging back into traffic after it stops.

Bus stop relocation can also improve transit reliability. Transit stops will be spaced appropriately to provide adequate accessibility to riders while limiting bus delays from frequent stops. Typically, the recommended transit stop spacing in urban areas is approximately 780 feet to 1000 feet in less dense areas. Transit stop relocations will be coordinated with pedestrian improvements, such as curb extensions, as they are constructed.

Individual intersections and stops can benefit from signal priority and timing improvements right away without a full BRT system being implemented. The City will consider implementing signal priority and individual management improvements as soon as practical in consultation with TriMet.

User Amenities

The purpose of transit stop amenities is to improve the convenience and attractiveness of using the transit system. Good public transportation is important to the livability of a community. Accessible transit stops are essential to a useable system. TriMet prioritizes the need for bus stop amenities by ridership and special circumstances (senior center, etc.). Potential improvements to the overall system include:

- Transit Tracker – Transit riders can utilize Transit Tracker by mobile phone to access next bus arrival times using the bus stop ID number provided at the bus stop. This feature is also available via the web.
- Bus shelters – Improve the convenience of using the transit system by providing a comfortable place to wait for the bus where ridership warrants are met.
- Curb extensions – The extension of the sidewalk area into the parking lane provides a more convenient pedestrian connection to a stopped bus.
- Street lighting – Bus stops will be highly visible locations so pedestrians can easily identify the locations and good security can be provided.
- Park and Ride Lots – Improves access to transit service by providing free designated parking lots near concentrated transit demand.

One of the most significant user amenities for bus services is a shelter at the transit stop. Most of the bus stops within the study area today have minimal amenities. These user amenity improvements are particularly important along the transit route #155 serving Sunnyside Road due to the higher volumes of passengers expected along this corridor. Potential park and ride lots are located on Sunnyside Road at the northeast corner of 132nd Avenue and the southwest corner of 142nd Avenue.

Metro RTP

In addition to the performance based needs discussed above, the Happy Valley TSP needs to consider Metro RTP designations for consistency. The RTP identifies regional bus transit designation[5] for the following facilities:

- Sunnyside Road
- 172nd Avenue
- 122nd/129th Avenue

Regional bus service operates with minimum frequencies of 15 minutes with conventional stop spacing along the route. Covered bus shelters, special lighting, signal preemption and curb extensions are appropriate at high ridership locations along these routes.

Also, the RTP identifies several major transit stops on Sunnyside Road. Major bus stops are intended to provide a high degree of transit passenger comfort and access. Major transit stops shall provide schedule information, lighting, benches, shelters and trash cans.

[5] Based on the *2000 Regional Transportation Plan*, Metro, August 12, 2000.

Recommended Transit Plan

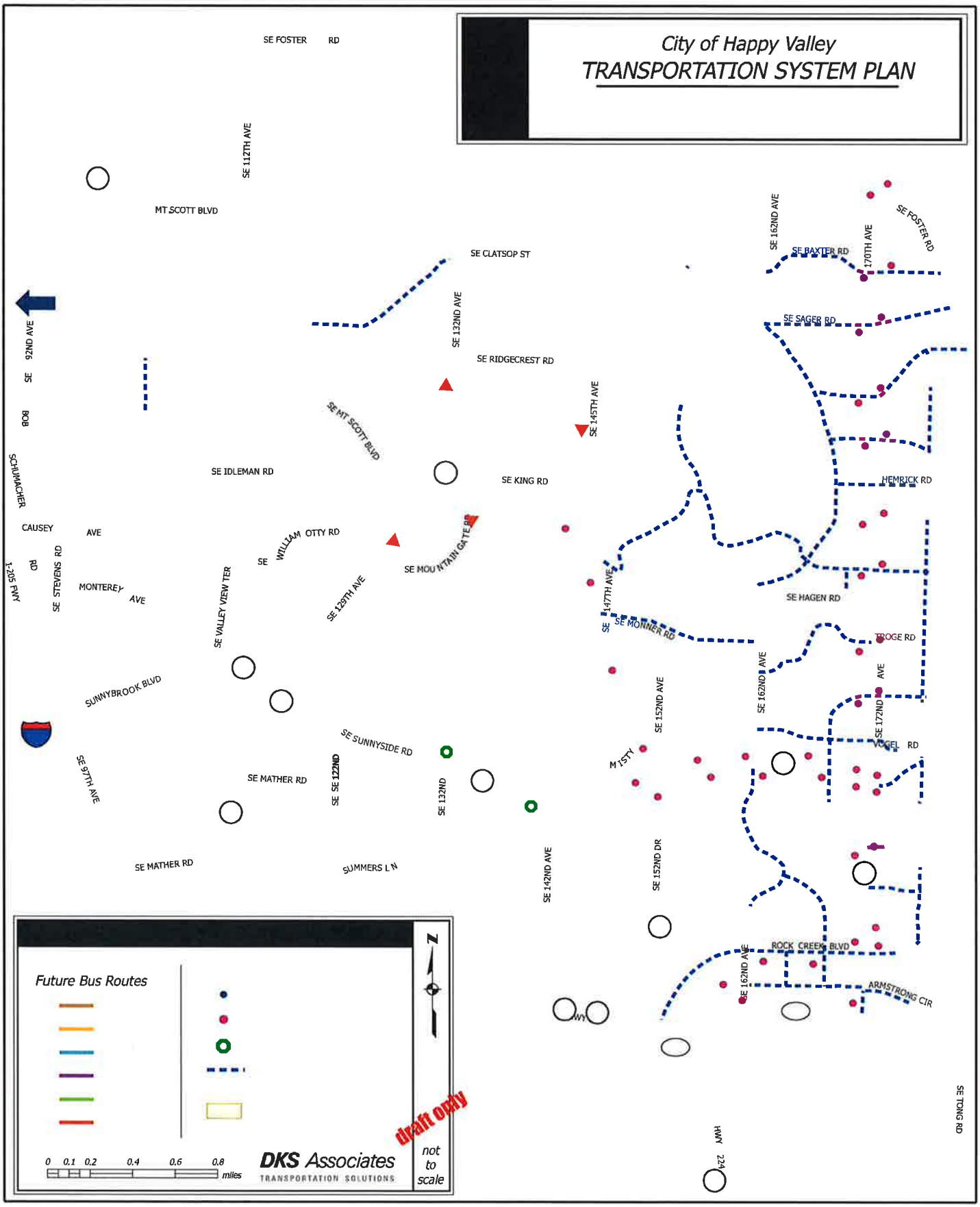
To meet transportation performance standards and serve growth, the future transportation system needs multi-modal improvements to manage the forecasted travel demand. Future growth can be accommodated with significant investment in transportation improvements. TriMet is responsible for any changes in transit routes through their annual TIP report. In order for the City to have its transit needs assessed, the City can provide input to TriMet's TIP through the Clackamas County Coordinating Committee or through the TIP Open House held every January.

Transit projects were determined based on the identified needs, policies and project feasibility. Proposed transit master plan projects are summarized in Table 7-1 and shown in Figure 7-2. Transit enhancements within the Tri-Met service area are ultimately decided based on regional transit goals. Happy Valley will coordinate with TriMet to incorporate changes to bus service.

Table 7-1: Transit Master Plan Projects

Project	Description	Cost ($1,000s)
TriMet District	Bring Happy Valley into the TriMet district.	$0
Bus Stop Enhancements	Coordinate with TriMet to provide transit stop amenities including bus shelters and street lighting at all transit stops.	$0
RTP Designated Major Transit Stops	To meet RTP requirements, amend development code regulations to require new development on sites at major transit stops to: ▪ Locate buildings within 20 feet of or provide a pedestrian plaza at the major transit stops. ▪ Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site. ▪ Provide a transit passenger landing pad accessible to disabled persons (if not already existing to transit agency standards). ▪ Provide an easement or dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider. ▪ Provide lighting at a transit stop.	$0
Park & Ride Lots	Coordinate with TriMet to provide future park and ride lots.	$0
Sunnyside Road Transit Signal Priority	Coordinate with TriMet to construct and implement transit signal priority on Sunnyside Road as congested conditions occur and ridership volumes increase.	$10 per intersection
172nd Avenue Transit Signal Priority	Coordinate with TriMet to construct and implement transit signal priority on 172nd Avenue as congested conditions occur and ridership volumes increase.	$10 per intersection
Expand Bus Route #10	Bus route #10 will be extended to serve future transit demand in Pleasant Valley, on 172nd Avenue and at the planned major employment center north of Highway 212.	-
Reconfigure Bus Route #157	Bus route #157 will be reconfigures to serve future transit demand on 147th Avenue, Misty Drive and 152nd Avenue between Sunnyside Road and King Road.	-
Expand Bus Route #155	Bus route #155 will be extended further east on Sunnyside Road to serve future transit demand.	-
Transit Corridors	Direct growth to increase the density of development along transit routes in the study area in an effort to support regional transit service goals.	$0
	Transit Project Total	**$0**

- These projects are under the jurisdiction of, and/or will be funded by, other agencies.


City of Happy Valley
TRANSPORTATION SYSTEM PLAN
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SE 129TH AVE
SUNNYBROOK BLVD
SE SUNNYSIDE RD
SE 97TH AVE
SE MATHER RD
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SUMMERS LN
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SE 152ND DR
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SE 162ND AVE
SE FOSTER RD
SE BAXTER RD
170TH AVE
SE SAGER RD
HEMRICK RD
SE 147TH AVE
SE MONNER RD
SE HAGEN RD
TROGE RD
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HWY 224
SE TONG RD
Future Bus Routes
0 0.1 0.2 0.4 0.6 0.8 miles
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TRANSPORTATION SOLUTIONS
draft only
not to scale
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Transit Action Plan

A transit system action plan project list was created to identify transit projects that are reasonably expected to be funded or implemented by the year 2025, which meets the requirements of the updated TPR[6]. Projects that are reasonably expected to be funded or implemented (see Chapter 10) were combined with projects identified in the RTP Financially Constrained scenario to create the project list shown in Table 7-2.

Table 7-2: Transit Action Plan Projects

Project	Description	Cost ($1,000s)
TriMet District	Bring Happy Valley into the TriMet district.	$0
Bus Stop Enhancements	Coordinate with TriMet to provide transit stop amenities including bus shelters and street lighting at all transit stops.	-
RTP Designated Major Transit Stops	To meet RTP requirements, amend development code regulations to require new retail, office, and institutional buildings on sites at major transit stops to: ▪ Locate buildings within 20 feet of or provide a pedestrian plaza at the major transit stops. ▪ Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site. ▪ Provide a transit passenger landing pad accessible to disabled persons (if not already existing to transit agency standards). ▪ Provide an easement or dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider. ▪ Provide lighting at a transit stop (if not already existing to transit agency standards).	$0
Transit Corridors	Direct growth to increase the density of development along transit routes in the study area in an effort to support regional transit service goals.	$0
	Transit Projects to be Funded by the City	**$0**

- These projects are under the jurisdiction of, and/or will be funded by, TriMet.

[6] *OAR Chapter 660*, Department of Land Conservation and Development, Division 012, Transportation Planning, adopted on March 15, 2005, effective April, 2005.

8. Motor Vehicle Plan

This chapter summarizes needs for the motor vehicle system for future conditions in the City of Happy Valley. It also outlines the strategies to be used in evaluating needs and recommends plans for motor vehicles (automobiles, trucks, buses and other vehicles). The Motor Vehicle modal plan is intended to be consistent with other jurisdictional plans including Metro's Regional Transportation System Plan (RTP), Clackamas County's Transportation System Plan (TSP) and the Rock Creek Plan.

Policies

Several policies were developed for future motor vehicle facilities in Happy Valley. These policies are aimed at providing the City with priorities to direct its funds towards motor vehicle projects that meet the goals of the City. The policies for motor vehicle facilities are:

- Policy 1a: Build residential and neighborhood streets to discourage speeding.
- Policy 1d: The City shall be open to alternative designs such as roundabouts, etc.
- Policy 2a: The City shall work to minimize traffic on local streets within the city by supporting improvements that limit the amount of cut-through traffic passing through Happy Valley except for on major arterials.
- Policy 2b: In development of roadway projects, impacts to adjacent homes/properties shall be considered, minimized, and balanced between providing a safe and efficient transportation facility.
- Policy 2c: Balance the functional classification system throughout the City.
- Policy 3e: Local streets shall be designed to encourage a reduction in trip length by providing connectivity and limiting out-of-direction travel. Connectivity shall be provided according to published Metro street connectivity guidelines that improve local circulation by providing connections to activity centers and destinations. Metro's Local Street System Design Criteria calls for no more than 530 feet between local street intersections.
- Policy 3j: Neighborhoods shall be connected to minimize out of direction travel for pedestrians and bicycles. This is achieved with a well developed local street system and off-street trail system.
- Policy 4a: Design of streets shall relate to their intended use and function.
- Policy 4e: Access management standards shall be developed in conjunction with the functional classification system for Happy Valley to improve safety in Happy Valley.

- Policy 4f: New roadways shall meet lighting standards. Existing roadways shall be systematically retrofitted with roadway lighting.
- Policy 8a: All collector, neighborhood route, and local streets in Happy Valley shall limit through truck traffic.
- Policy 8b: Specific arterials shall be designated as freight routes for through truck movements.

Future Capacity Deficiencies

The base case analysis for the forecasted 2025 growth was essentially a no-build scenario based on the RTP Financially Constrained funding scenario. This scenario only includes transportation system improvements outside of the TSP study area that are expected to be constructed and implemented with the current funding levels. Figure 8-1 shows the forecasted demand to capacity ratio on roadways within the TSP study area for the no-build scenario. As shown in the figure, the no-build scenario transportation system does not have adequate roadway capacity to serve the expected future travel needs. Red roadway segments in Figure 8-1 indicate roadway segments that are over-capacity and do not meet either City or County traffic operating standards. The demand to capacity ratios exceed 1.0 on multiple key corridors in the study area including Sunnyside Road, 129th Avenue, 132nd Avenue, 145th/147th/152nd Avenue, Mt. Scott Boulevard, Idleman Road, Ridgecrest Road and Clatsop Street.

Strategies

To meet performance standards and serve future growth, the future transportation system needs multi-modal improvements and strategies to manage the forecasted travel demand. The extent and nature of the multi-modal improvements for Happy Valley are significant. The impact of future growth would be severe without investment in transportation improvements. Strategies for meeting automobile facility needs include the following:

- Local Circulation Enhancements
- Neighborhood Traffic Management
- Transportation Demand Management Programs to Reduce Peak Traffic for Employers in Happy Valley
- Additional Traffic Signals on Arterial/Collector Intersections
- Intelligent Transportation Systems (ITS)
- Intersection Modifications
- Transportation System Management (TSM)
- Regional Circulation Enhancements
- Mitigate all Intersections to Level of Service D and V/C of 0.99 in the PM Peak Hour

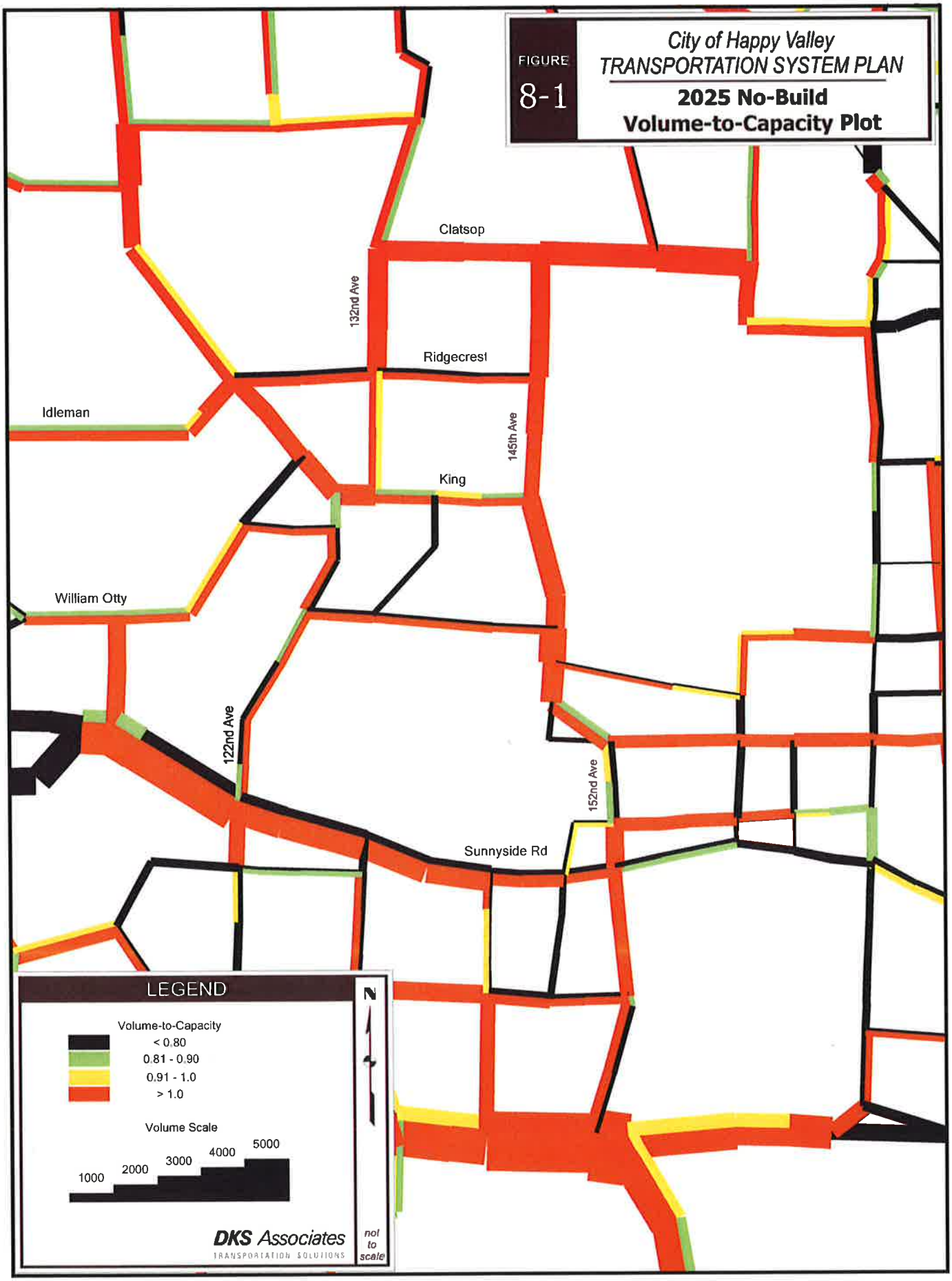


FIGURE
8-1
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
2025 No-Build
Volume-to-Capacity Plot
Clatsop
132nd Ave
Ridgecrest
Idleman
145th Ave
King
William Otty
122nd Ave
152nd Ave
Sunnyside Rd
LEGEND
Volume-to-Capacity
< 0.80
0.81 - 0.90
0.91 - 1.0
> 1.0
Volume Scale
1000
2000
3000
4000
5000
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

The following sections outline the type of improvements that would be necessary as part of a long-range Motor Vehicle Master Plan. Phasing of implementation will be necessary since all of the improvements cannot be done at once. This will require prioritization of projects and periodic updating to reflect current needs. Most importantly, it will be understood that the improvements outlined in the following sections are a guide to managing growth in Happy Valley as it occurs over the next 20 years.

Transportation System Management (TSM)

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system by seeking solutions to immediate transportation problems, finding ways to better manage transportation, maximizing urban mobility, and treating all modes of travel as a coordinated system. These types of measures include such things as signal improvements, traffic signal coordination, traffic calming, access management, local street connectivity and intelligent transportation systems (ITS). Typically, the most significant measures that can provide tangible benefits to the traveling public are traffic signal coordination and systems.

TSM measures focus primarily on region wide improvements, however there are a number of TSM measures that could be used in a smaller scale environment such as the Happy Valley area. The following sections discuss TSM measures that could be appropriate for the Happy Valley 2025 TSP study area.

Intelligent Transportation Systems (ITS)

ITS involves the application of advanced technologies and proven management techniques to relieve congestion, enhance safety, provide services to travelers and assist transportation system operators in implementing suitable traffic management strategies. ITS focuses on increasing the efficiency of existing transportation infrastructure, which enhances the overall system performance and reduces the need to add capacity (e.g. travel lanes). Efficiency is achieved by providing services and information to travelers so they can (and will) make better travel decisions and to transportation system operators so they can better manage the system and improve system reliability.

Clackamas County has prepared an ITS plan for the urbanized area of the County. The Clackamas County ITS Plan[1] has identified arterial signal control ITS projects on major streets throughout the county. Sunnyside Road and 122nd/129th Avenue within the TSP study area have been identified for planned fiber optic cable and closed-circuit cameras at several major intersections.

Other ITS projects to consider in the future may include:

- Transit signal priority
- Signal coordination and optimization
- Traffic monitoring and surveillance
- Information availability
- Incident management

[1] Clackamas County ITS Plan, DKS Associates, Inc. and Zenn Associates, February 2003.

In order to support future ITS projects including traffic signal operations, the City of Happy Valley and Clackamas County should require the installation of 3 inch conduit along arterial and selected collector roadways during roadway improvement projects. ITS projects can require additional fiber optic cable to serve the new equipment along a roadway. A 3 inch conduit would ensure adequate wiring capacity to accommodate future ITS projects.

Neighborhood Traffic Management (NTM)

Happy Valley has neighborhood traffic management elements in place, such as speed humps, on streets within the study area. The city will consider additional traffic calming measures and work with the community to find the traffic calming solution that best meets their needs and maintains roadway function. Table 8-1 lists common NTM applications and suggests which devices may be supported by the Clackamas County Fire District. Neighborhood traffic management projects will include coordination with emergency agency staff to assure public safety.

Table 8-1: Traffic Calming Measures by Roadway Functional Classification

Traffic Calming Measure	Roadway Classification		
	Arterial	**Collector**	**Neighborhood/ Local Street**
Curb Extensions	Not Supported	Supported*	Traffic calming measures are acceptable on lesser emergency response routes that have connectivity (more than two accesses) and are accepted by the City of Happy Valley.
Medians	Supported	Supported	
Pavement Texture	Not Supported	Supported	
Speed Hump	Not Supported	Not Supported	
Roundabout	Supported**	Supported	
Raised Crosswalk	Not Supported	Not Supported	
Speed Cushion (provides emergency pass-through with no vertical deflection)	Not Supported	Not Supported	
Choker[2]	Not Supported	Not Supported	
On-Street Parking	Not Supported	Not Supported	
Traffic Circle	Not Supported	Not Supported	
Diverter (with emergency vehicle pass through)	Not Supported	Not Supported	

* Only supported on roadways with on-street parking.

** In special cases to be determined by City staff.

Note: It is desirable to have all traffic calming measures meet Clackamas County Fire District guidelines including minimum street width, emergency vehicle turning radius, and accessibility/connectivity.

Access Management

Access Management is a broad set of techniques that balance the need to provide efficient, safe and timely travel with the ability to allow access to individual properties. Proper implementation of access management techniques will guarantee reduced congestion, reduced accident rates, less need for roadway widening, conservation of energy, and reduced air pollution.

Access management is the control or limiting of vehicular access on arterial and collector facilities to maintain the capacity of the facilities and preserve their functional integrity. Access management strives to strike a balance between maintaining the integrity of the facility and

[2] Chokers are not supported when they do not shadow parking. If parking is shadowed, see curb extensions.

providing access to adjacent parcels. Numerous driveways can erode the capacity of arterial and collector roadways. Preservation of capacity is particularly important on higher volume roadways for maintaining traffic flow and mobility. Whereas local and neighborhood streets function to provide access, collector and arterial streets serve greater traffic volume. Numerous driveways or street intersections increase the number of conflicts and potential for collisions and decrease mobility and traffic flow. Happy Valley, as with every city, needs a balance of streets that provide access with streets that serve mobility.

Several access management strategies were identified to improve local access and mobility in Happy Valley:

- Develop specific access management plans for major and minor arterial streets in Happy Valley to maximize the capacity of the existing facilities and protect their functional integrity.
- Work with land use development applications to consolidate driveways where feasible.
- Provide left turn lanes where warranted for access onto cross streets.
- Construct raised medians to provide for right-in/right-out driveways as appropriate.

New development and roadway projects located on City street facilities shall meet the access spacing standards summarized in Table 8-2. Access points include public streets, private streets, and private commercial or residential driveways. A variation to the access spacing standards may be granted in areas with limited property frontage and/or environmental constraints. Any variation to these spacing standards will require an access management plan to be approved by the City engineer. The maximum access spacing listed in this table is consistent with Metro[3].

Table 8-2: Access Spacing Standards for City Street Facilities

Street Facility	Maximum Access Spacing	Minimum Access Spacing with Full Access	Minimum Access Spacing with Limited Access*
Major Arterial	-	1,000 feet	500 feet
Minor Arterial	-	600 feet	300 feet
Collector	530 feet	400 feet	200 feet
Neighborhood	530 feet	-	-
Local	530 feet	-	-

Note: Intersection and driveway spacing measured from centerline to centerline.
* Limited Access – Vehicles are restricted to right-in/right-out turn movements. In some cases, left-in turn movements may be permitted.

Access management is not easy to implement and often requires long institutional memory of the impacts of short access spacing – increased collisions, reduced capacity, poor sight distance and greater pedestrian exposure to vehicle conflicts. The most common opposition response to access control is that "there are driveways all over the place at closer spacing than mine – just look out there".

[3] Metro Regional Transportation Plan, 2000.

These statements are commonly made without historical reference. Many of the pre-existing driveways that do not meet access spacing requirements were put in when traffic volumes were substantially lower and no access spacing criteria were mandated. With higher and higher traffic volume in the future, the need for access control on all arterial and collector roadways is critical – the outcome of not managing access properly is additional wider roadways which have much greater impact than access control.

Traffic Signal Spacing

Traffic signal spacing standards have been established as part of this Happy Valley TSP update. Traffic signals that are spaced too closely on a corridor can result in poor operating conditions and safety issues due to the lack of adequate storage for vehicle queues. Optimum traffic signal spacing allows for the coordination of traffic signals along a corridor resulting in reduced overall vehicle delay.

A minimum traffic signal spacing of 1,000-feet is required for major arterial, minor arterial and collector facilities. A variation to the traffic signal spacing standard may be granted in areas with limited property frontage and/or environmental constraints. Any variation to the traffic signal spacing standard will require the approval of the City engineer.

Local Street Connectivity

Much of the local street network in Happy Valley is built but is not well connected. Multiple access opportunities for entering or exiting neighborhoods are limited. There are a number of locations where neighborhood traffic is funneled onto one single street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes that impacts residential frontage. The outcome can result in the need for wider roads, traffic signals and turn lanes (which can negatively impact traffic flow). By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between various travel modes can be enhanced and traffic levels can be balanced out between various streets. Additionally, public safety response time is reduced.

Some of these local connections can contribute with other street improvements to mitigate capacity deficiencies by better dispersing traffic. Several roadway connections will be needed within neighborhood areas to reduce out of direction travel for vehicles, pedestrians and bicyclists. This is most important in the areas where a significant amount of new development is possible.

Figure 8-2 shows the proposed Street Connectivity Plan for Happy Valley. In most cases, the connector alignments are not specific and are aimed at reducing potential neighborhood traffic impacts by better balancing traffic flows on neighborhood routes. The arrows shown in the figures represent potential connections and the general direction for the placement of the connection. In each case, the specific alignments and design will be better determined upon development review.

The criteria used for providing local connections are based on the Metro RTP requirements for new residential or mixed-use developments.

- Every 330 feet, a grid for pedestrians and bicycles
- Every 530 feet, a grid for automobiles

To protect existing neighborhoods from potential traffic impacts of extending stub end streets, connector roadways will incorporate neighborhood traffic management into their design and construction. All stub streets will have signs indicating the potential for future connectivity. Additionally, new development that constructs new streets, or street extensions, must provide a proposed street map that:

- Provides full street connections with spacing of no more than 530 feet between connections except where prevented by barriers
- Provides bike and pedestrian access ways in lieu of streets with spacing of no more than 330 feet except where prevented by barriers
- Limits use of cul-de-sacs and other closed-end street systems to situations where barriers prevent full street connections
- Includes no close-end street longer than 200 feet or having no more than 10 dwelling units
- Includes street cross-sections demonstrating dimensions of ROW improvements, with streets designed for posted or expected speed limits

The arrows shown on Figure 8-2 indicate priority for local and neighborhood connections only. Other stub end streets in the road network may become cul-de-sacs, extended cul-de-sacs or provide collector or arterial connections. Pedestrian connections from the end of any stub end street that results in a cul-de-sac will be considered mandatory as future development occurs. The goal would continue to be improved city connectivity for all modes of transportation.

Topography and environmental conditions limit the level of connectivity in several areas of Happy Valley. The area north and south of Sunnyside Road between SE 152nd Avenue and Rock Creek and the Scouter Mountain area between 145th Avenue and 162nd Avenue are recognized as being particularly challenging and may require exceptional treatment to avoid overloading of narrow local streets.

Functional Classification

The proposed functional classification of roadways was developed following detailed review of the existing Happy Valley TSP, Clackamas County TSP and the Rock Creek Plan functional classification. A proposed roadway system has been developed within the planned growth areas of the TSP study area. The proposed functional classification of these roadways is shown in Figure 8-3.

The following proposed Happy Valley TSP functional classifications are inconsistent with the Clackamas County TSP and/or the Rock Creek Plan.

- 172nd Avenue changed from a minor arterial (County TSP) to a major arterial
- Monner Road changed from a local street (County TSP) to a neighborhood street
- 162nd Avenue (north of Sunnyside Road) changed from a local street (County TSP) to a collector street
- 152nd Avenue (north of Sunnyside Road) changed from a collector (County TSP and Rock Creek Plan) to a minor arterial
- Valley View Terrace changed from neighborhood street (Happy Valley TSP) to a collector street

The following revisions are recommended to the current Happy Valley TSP:

- Hagen Road changed from a neighborhood street to a local street.

The criteria used to assess functional classification have two components: the extent of connectivity and the frequency of the facility type. Maps can be used to determine regional, city/district and neighborhood connections. The frequency or need for facilities of certain classifications is not routine or easy to package into a single criterion. While planning textbooks call for arterial spacing of a mile, collector spacing of a quarter to a half-mile, and neighborhood connections at an eighth to a sixteenth of a mile, this does not form the only basis for defining functional classification.

Changes in land use, environmental issues or barriers, topographic constraints, and demand for facilities can change the frequency for routes of certain functional classifications. While spacing standards can be a guide, they must consider other features and potential long term uses in the area (some areas would not experience significant changes in demand, where others will). It is acceptable for the city to re-classify street functional designations to have different naming conventions than the RTP street functional classifications, however, the general intent and purpose of the facility, whatever the name, will be consistent with regional, state and federal guidelines.

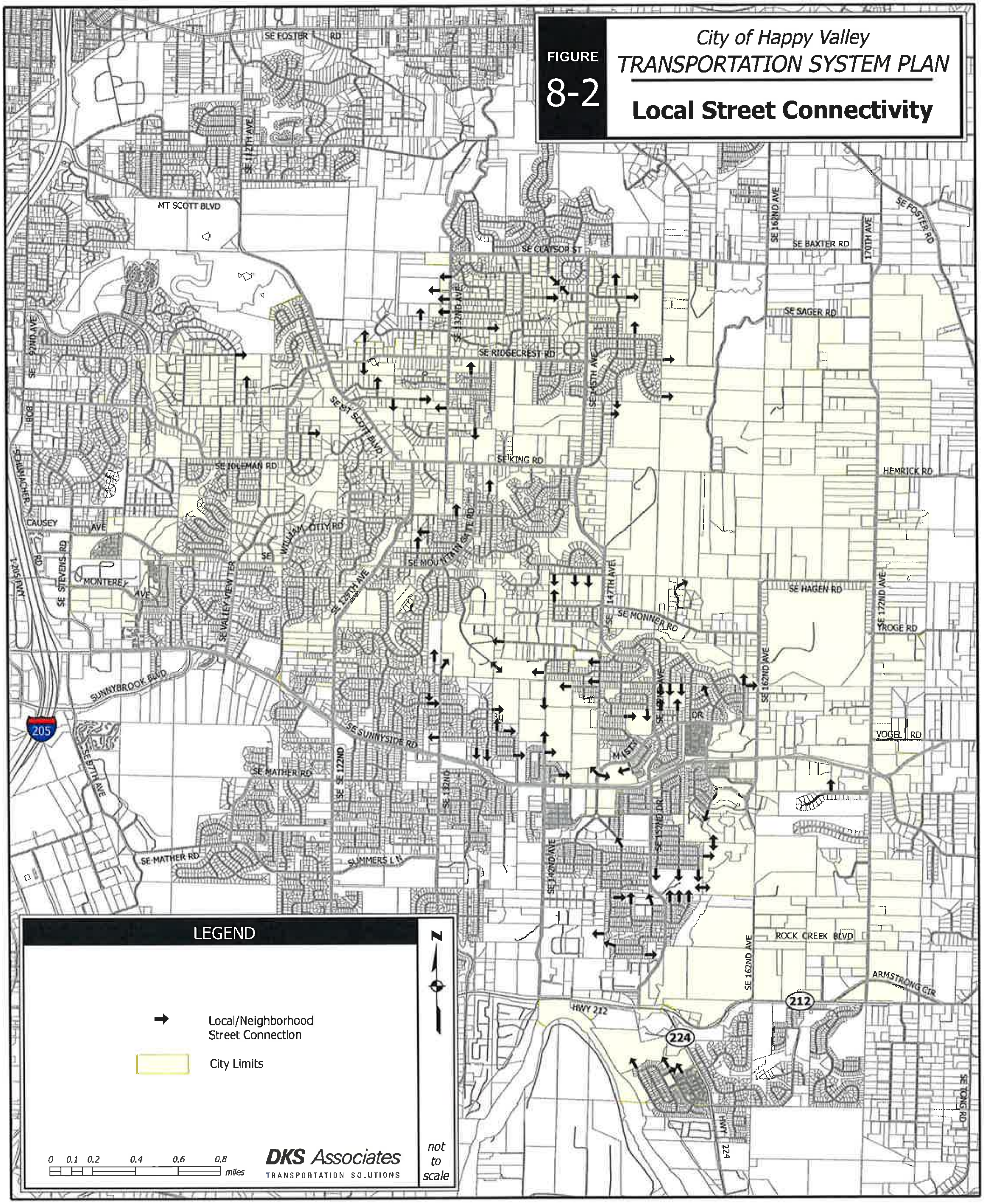


FIGURE
8-2
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Local Street Connectivity
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE CLATSOP ST
SE 132ND AVE
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
SE 92ND AVE
SE RIDGECREST RD
SE 145TH AVE
SE MT SCOTT BLVD
BOB SCHUMACHER RD
SE KING RD
SE IDLEMAN RD
HEMRICK RD
CAUSEY AVE
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE STEVENS RD
I-205 FWY
MONTEREY AVE
SE VALLEY VIEW TER
SE 129TH AVE
SE 147TH AVE
SE HAGEN RD
SE 172ND AVE
SE MONNER RD
YROGE RD
SUNNYBROOK BLVD
205
SE 162ND AVE
SE 87TH AVE
SE SUNNYSIDE RD
VOGEL RD
SE MATHER RD
SE 122ND
SE 132ND
SE 142ND AVE
SE 152ND DR
SE MATHER RD
SUMMERS LN
ROCK CREEK BLVD
SE 162ND AVE
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Local/Neighborhood Street Connection
City Limits
N
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale

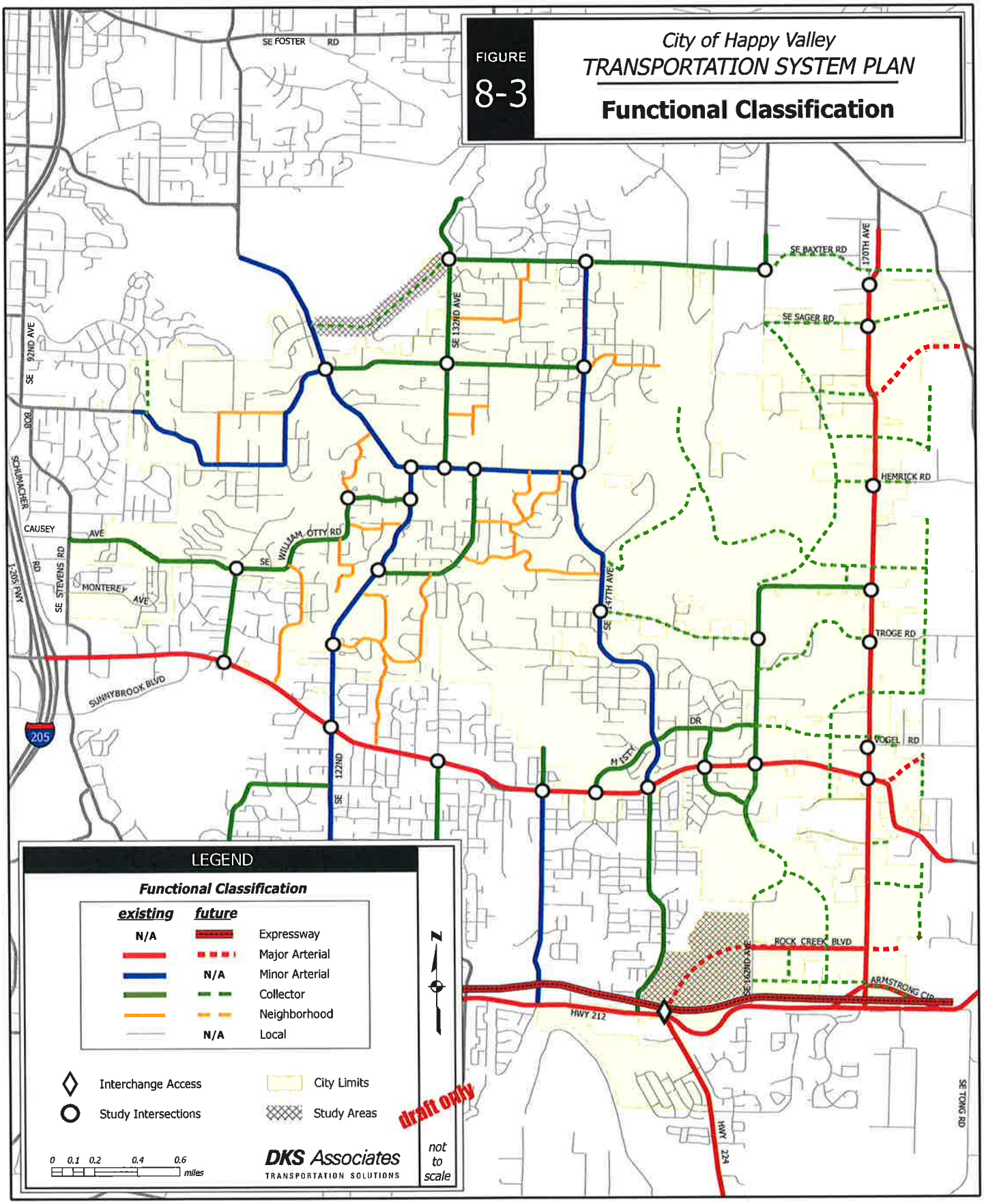


FIGURE
8-3
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Functional Classification
SE FOSTER RD
SE BAXTER RD
SE SAGER RD
170TH AVE
SE 132ND AVE
SE 92ND AVE
HEMRICK RD
SCHUNACKER RD
CAUSEY AVE
SE STEVENS RD
I-205 FWY
MONTEREY AVE
SE WILLAMETTE FALLS DR
SE 147TH AVE
TROGE RD
SUNNYBROOK BLVD
205
SE 122ND
VOGEL RD
ROCK CREEK BLVD
SE 129TH AVE
ARMSTRONG CIR
HWY 212
HWY 224
SE TONG RD
LEGEND
Functional Classification
existing
future
N/A
Expressway
Major Arterial
N/A
Minor Arterial
Collector
Neighborhood
N/A
Local
Interchange Access
Study Intersections
City Limits
Study Areas
draft only
0 0.1 0.2 0.4 0.6 miles
DKS Associates
TRANSPORTATION SOLUTIONS
not to scale
N

Roadway Cross-Section Standards

The design characteristics of streets in Happy Valley were developed to meet the function and demand for each facility type. Because the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, the objective was to define a system that allows standardization of key characteristics to provide consistency, but also to provide criteria for application that provides some flexibility, while meeting the design standards.

Table 8-3 summarizes the proposed street characteristics for Happy Valley. Figures 8-4 through 8-8 show the cross-sections for arterials, collectors, neighborhood, local streets, alleyways and private streets in Happy Valley. Where center left turn lanes are identified (3 lane section), the actual design of the street may include sections without center turn lanes (2 lane section) near environmentally sensitive or physically constrained areas or with median treatments. The actual treatment will be determined within the design for implementation of each project.

Alternative collector and local cross-sections have been developed to allow for flexibility in design with an emphasis on streetscape elements. A hillside collector cross-section was developed for 162nd Avenue and the east-west collector along the base of Scouter Mountain with a 12 foot path on the downhill side of the roadway and a narrower width to reduce environmental impacts. A collector cross-section with on-street parking was developed for the newly planned area east of 162nd Avenue to provide a neighborhood streetscape. Collector and local cross-sections were developed for roadways along commercial and industrial zoned parcels to provide an appropriate streetscape. Cross-sections for private streets and alleyways have also been added.

Table 8-3: Proposed Street Characteristics

Street Element	Characteristic	Width/Options
Vehicle Lane Widths: (Minimum widths)	Truck Route Bus Route Arterial Collector Neighborhood Local Turn Lane	12 feet 11 feet 12 feet 12 feet 10 feet 10 feet 12 feet[4]
On-Street Parking:		8 feet
Bicycle Lanes: (minimum widths)	New Construction Reconstruction	5 to 6 feet 5 to 6 feet
Sidewalks: (Minimum width)	Neighborhood/Local Collector Arterial	5 feet 5 feet 6 feet
Landscape Strips:	Required on all streets	5 feet
Medians:	5-Lane 3-Lane 2-Lane	Required Required Optional
Neighborhood Traffic Management:	Local Neighborhood Collectors Arterials	Not necessary Consider if appropriate Under special conditions Prohibited
Transit:	Arterial/Collectors Neighborhood/Local Local	Appropriate Only in special circumstances Not appropriate

[4] In constrained conditions on collector and neighborhood facilities, a minimum width of 11 feet may be considered.

The local roadway cross-sections shown in Figure 8-7A provide for a 28-foot pavement section with parking on one side of the street and a 32-foot pavement section with parking on both sides of the street. This cross-section standard is based on the recommendations of the Fire Code Applications Guide from the Oregon Fire Code[5] and comments received from the Clackamas County Fire District #1 representatives. The intent of the local roadway cross-sections is to provide sufficient roadway width to adequately accommodate emergency vehicles.

Under some conditions a variation to the cross-sections may be requested from the City Engineer. Typical conditions that may warrant a variation include (but are not limited to) the following:

- Infill sites
- Innovative designs (roundabouts)
- Severe topographic or environmental constraints
- Existing developments and/or buildings that make it extremely difficult or impossible to meet the design standards.

Street Right-of-Way Needs

Figure 8-9 summarizes the anticipated right-of-way needs for existing and proposed roadways within the TSP planning horizon. Planning level right-of-way needs can be determined utilizing street cross-sections and the lane geometry outlined later in this chapter. Special consideration was given to the proposed roadway network with environmental constraints such as creeks and steep grades. Several proposed roadways within the Scouter Mountain Area have been identified as two-lane roadways to reduce potential environmental impacts.

Wherever arterial or collectors cross each other, planning for additional right-of-way to accommodate turn lanes will be considered within 500 feet of the intersection. Specific right-of-way needs will need to be monitored continuously through the development review process to reflect current needs and conditions. This will be necessary since more specific detail may become evident in development review which requires improvements other than those outlined in this 20 year general planning assessment of street needs.

Intersection Performance Standards

Policy 5a establishes minimum intersection operating standards to be maintained for the City of Happy Valley. The City shall utilize these standards to evaluate land use actions and proposed mitigations. All public facilities shall be designed to meet these standards.

- All signalized intersections shall operate at level of service D and V/C ratio of 0.90 or better during the peak hours of analysis. Individual movements must meet level of service E and a V/C ratio of 1.0.
- All roundabout intersections shall operate at level of service D or better during the peak hours of analysis. Each approach must meet level of service E and a V/C ratio of 0.85.
- All unsignalized two-way stop controlled intersections shall operate at level of service E or better (based on average approach delay) for all side street approaches during the peak hours of analysis.
- All unsignalized all-way stop controlled intersections shall operate at level of service D or better based on average intersection delay during the peak hours of analysis.

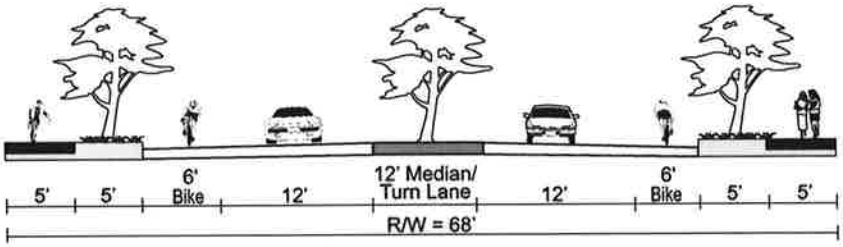
[5] Fire Code Applications Guide, Oregon Fire Code, Metro Code Committee, revised January 2005.

FIGURE 8-4

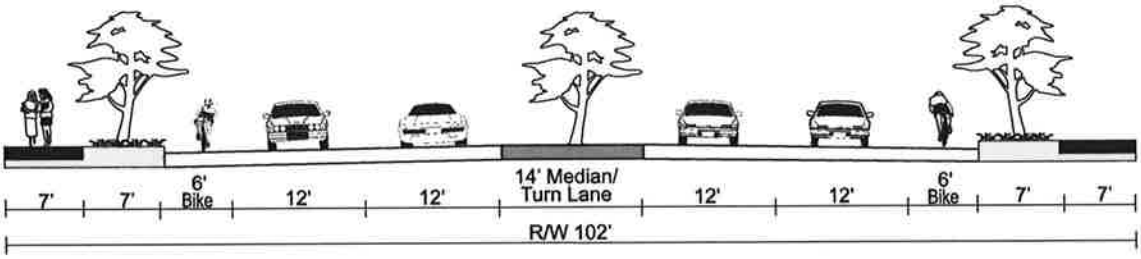
City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Arterial Facility Cross-Section

MINOR ARTERIAL
3 Lane Section



MAJOR ARTERIAL
5 Lane Section



Note: Along commercial zoning frontage and major transit stops, the sidewalk and planter strip width may be combined to provide sidewalks and street tree wells.

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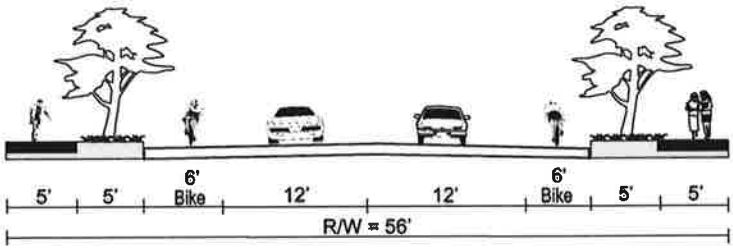
FIGURE 8-5A

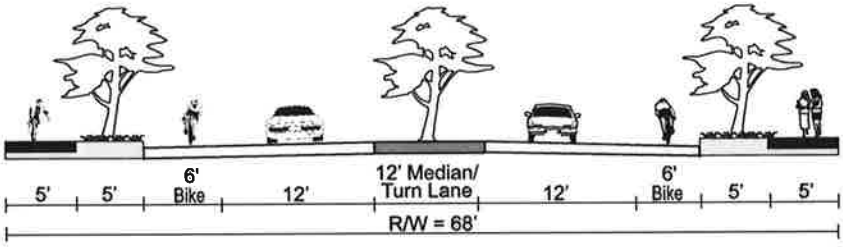
City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Collector Facility Cross-Section

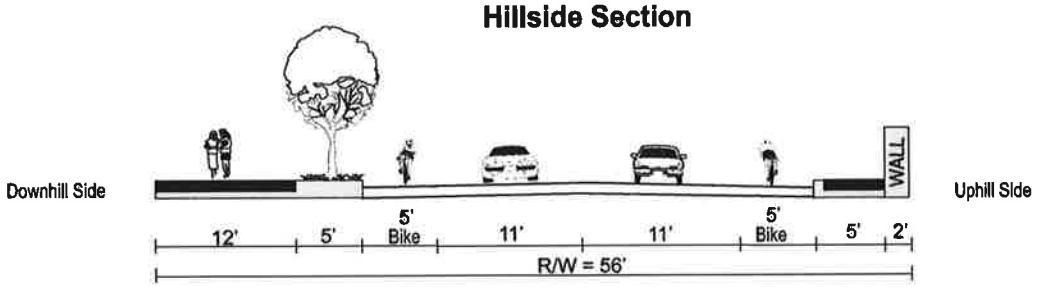
2 Lane Section



3 Lane Section



Hillside Section



Note: Two lane cross-section may be considered when environmental constraints (creeks, topography, etc.) are present to limit the impacts of the roadway. A two lane cross-section may only be considered when a center left turn lane is not required. Use of this cross-section requires City Engineer's approval.

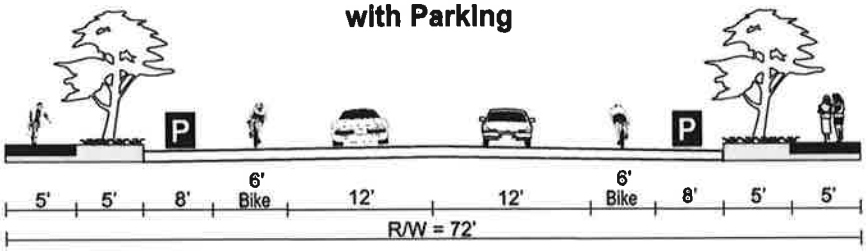
Note: Hillside cross-section to be used on the future 162nd Avenue along the eastern base of Scouter Mountain and the future east-west roadway along the southern base of Scouter Mountain. If a retaining wall is required on the uphill side of the roadway, it should be located within the right of way. The uphill sidewalk may be omitted if expected pedestrian usage is expected to be very low due to the frontage development per the City Engineer's approval. If the uphill sidewalk is omitted, the retaining wall must be at least 3 feet back from the face of curb. The 56 foot right-of-way shown is based on an assumed 2 foot retaining wall width, the actual right-of-way needs will vary.

FIGURE 8-5B

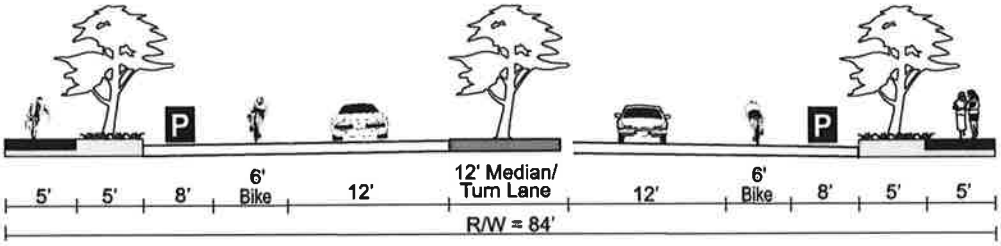
City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Collector Facility Cross-Section

2 Lane Section with Parking



3 Lane Section with Parking



Note: Collector cross-sections with on-street parking may be considered on roadways located east of SE 162nd Avenue when the frontage property is zoned attached residential, multi-family residential or commercial. On-street parking should not be allowed within 100 feet of an intersection. The posted speed limit should be 30 miles per hour or less with on-street parking. Angled on-street parking may be considered based on a review of vehicle speed, volume and safety. Angled on-street parking would require additional right-of-way, typically 20 feet minimum.

No single family driveways are allowed on collector roadways, therefore alleyways should be considered for residential fronting properties. Along commercial zoning frontage, the five foot wide sidewalk and five foot wide planter strip may be replaced with ten foot wide sidewalk with street tree wells.

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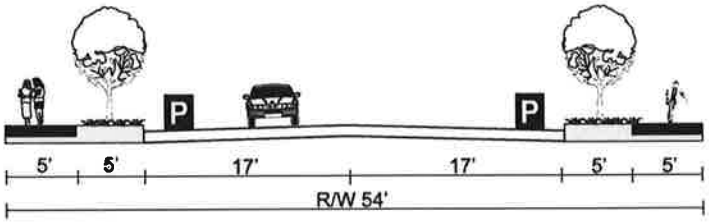
City of Happy Valley

FIGURE 8-6

City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Neighborhood Facility Cross-Section

Neighborhood Street



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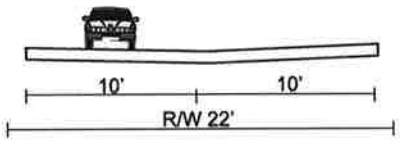
City of Happy Valley

FIGURE 8-7A

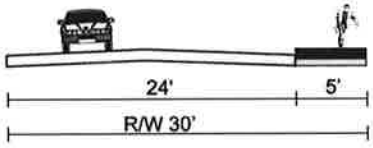
City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Local Facility Cross-Section

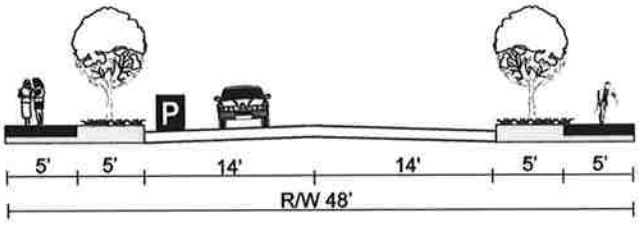
Private Alleyway



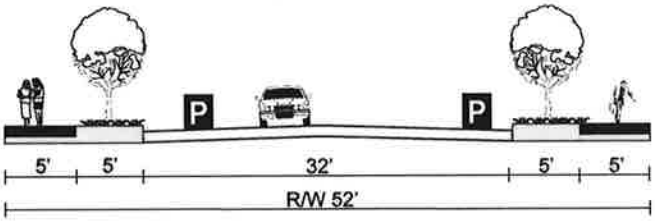
Private Street



Local Street
Parking on One Side



Local Street
Parking on Both Sides



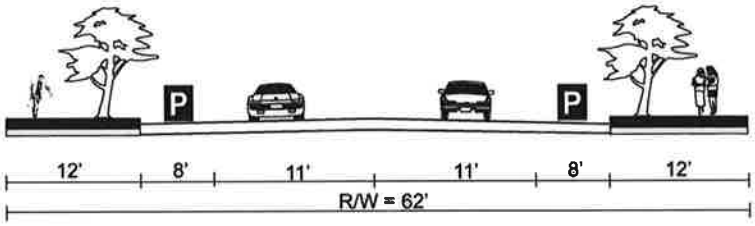
Note: Alleyway cross-section should provide a minimum of 22 feet of clear distance (between buildings, dumpsters, etc.) to accommodate emergency vehicle access. Alleyway drainage design per City Design Manual.

FIGURE 8-7B

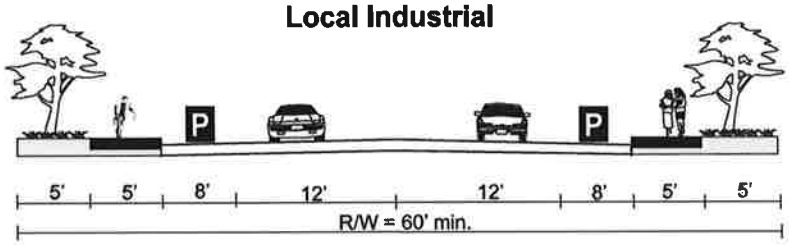
City of Happy Valley
TRANSPORTATION SYSTEM PLAN

Local Facility Cross-Section

Local Commercial



Local Industrial



Note: Local Commercial cross-section to be used when any of the frontage property is zoned General Commercial, Community Commercial, Mixed Use Residential or Mixed Use Employment (retail/office use). Angled on-street parking may be considered based on a review of vehicle speed, volume and safety. Angled on-street parking would require additional right-of-way, typically 20 feet minimum.

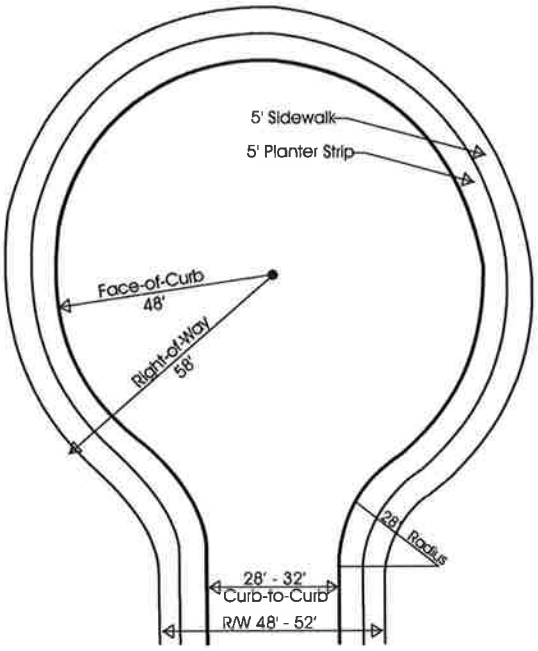
Note: Local Industrial cross-section to be used when the majority of the frontage property is zoned Regional Significant Industrial Area or Mixed Use Employment (industrial use).

FIGURE 8-8

City of Happy Valley
TRANSPORTATION SYSTEM PLAN

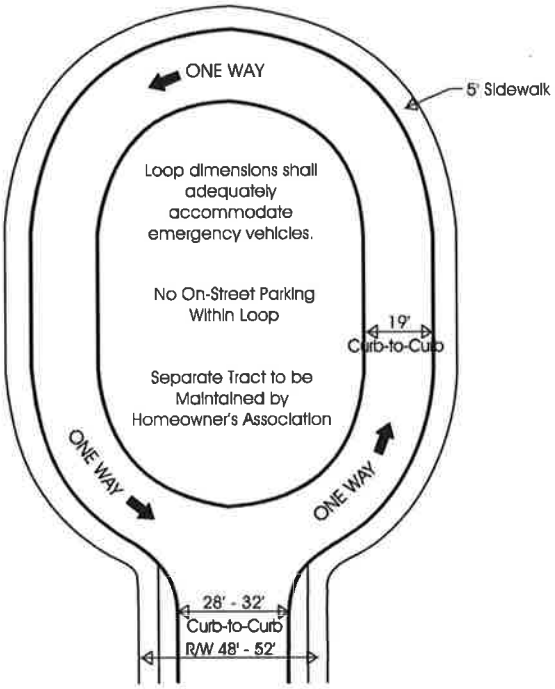
Cul de Sac, Loop Turn-Around & Hammerhead Cross-Sections

CUL DE SAC



Sketch Not to Scale

LOOP TURN-AROUND



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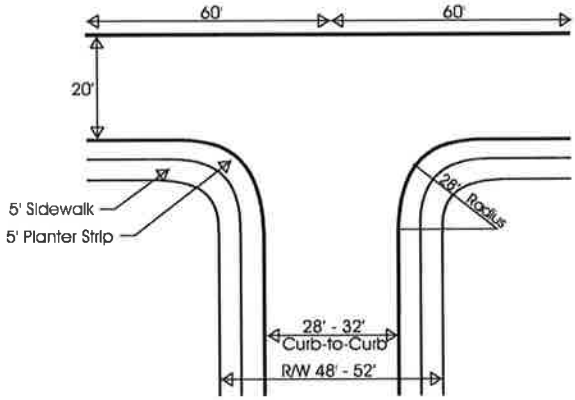
HAMMERHEAD



Sketch Not to Scale

DKS Associates
TRANSPORTATION SOLUTIONS

City of Happy Valley

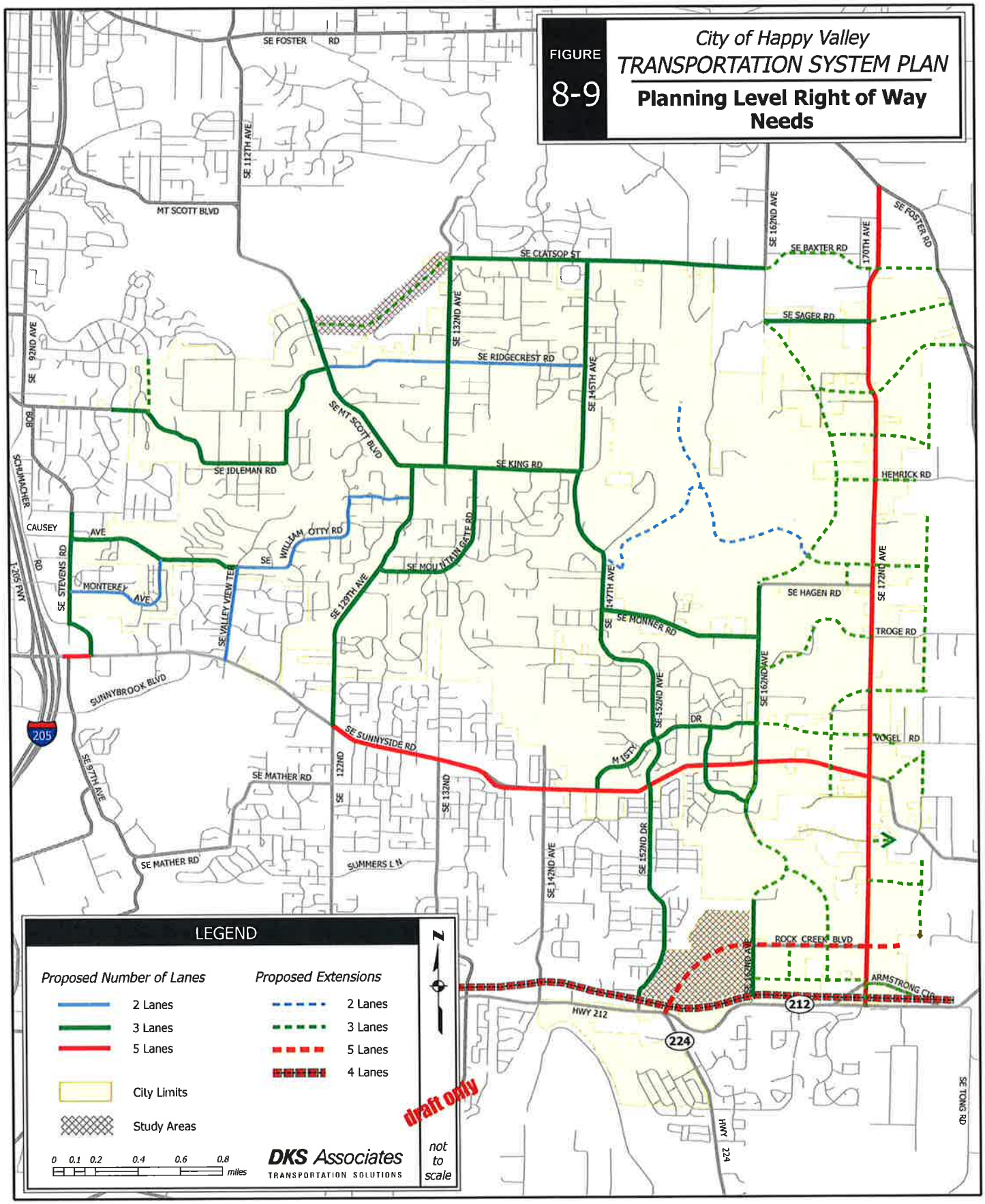


FIGURE 8-9
City of Happy Valley
TRANSPORTATION SYSTEM PLAN
Planning Level Right of Way Needs
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
BOB SCHUMACHER RD
I-205 FWY
CAUSEY AVE
SE STEVENS RD
MONTEREY AVE
SUNNYBROOK BLVD
205
SE 97TH AVE
SE MATHER RD
SE 122ND
SE 132ND AVE
SE CLATSOP ST
SE RIDGECREST RD
SE MT SCOTT BLVD
SE IDLEMAN RD
SE KING RD
SE WILLAMETTE FALLS DR
SE VALLEY VIEW TER
SE 129TH AVE
SE MOUNTAIN GATE RD
SE SUNNYSIDE RD
SUMMERS LN
SE 145TH AVE
SE 147TH AVE
SE MONNER RD
SE 152ND AVE
SE 152ND DR
SE 142ND AVE
SE 162ND AVE
SE BAXTER RD
SE SAGER RD
SE HAGEN RD
SE 170TH AVE
SE FOSTER RD
HEMRICK RD
SE 172ND AVE
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
212
224
HWY 224
SE TONG RD
LEGEND
Proposed Number of Lanes
2 Lanes
3 Lanes
5 Lanes
City Limits
Study Areas
Proposed Extensions
2 Lanes
3 Lanes
5 Lanes
4 Lanes
0 0.1 0.2 0.4 0.6 0.8 miles
DKS Associates
TRANSPORTATION SOLUTIONS
N
draft only
not to scale

Parking Requirements

The City of Happy Valley currently has off-street parking ratios (minimum and maximum) standards consistent with the TPR and RTP parking ratio requirements. In addition, there are several parking policies[6] that will be considered including:

- Allow the designation of residential parking districts to protect residential areas from spillover parking generated by adjacent commercial, employment, or mixed-use areas, or other uses that generate a high demand for parking.
- Provide Metro annual parking data when requested that demonstrates compliance with the minimum and maximum parking ratios, including the application of any variances to the regional standards.
- Require parking lots more than three acres in size to provide street-like features along major driveways; including curbs, sidewalks, and street trees or planter strips. Major driveways in new residential and mixed-use areas shall meet connectivity standards for full street connections.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. As growth in the Happy Valley area occurs, the number of vehicle trips and travel demand in the area will also increase. The ability to change a user's travel behavior and provide alternative mode choices will help accommodate this growth.

Generally, TDM focuses on reducing vehicle miles traveled and promoting alternative modes of travel for large employers of an area. This is due in part to the Employee Commute Options (ECO) rules that were passed by the Oregon Legislature in 1993 to help protect the health of Portland area residents from air pollution and to ensure that the area complied with the Federal Clean Air Act.[7]

Research has shown that a comprehensive set of complementary policies implemented over a large geographic area can have an effect on the number of vehicle miles traveled to/from that area.[8] However, the same research indicates that in order for TDM measures to be effective, they should go beyond the low-cost, uncontroversial measures commonly used such as carpooling, transportation coordinators/associations, priority parking spaces, etc. Setting TDM goals and policies for new development will be necessary to help implement TDM measures in the future.

The more effective TDM measures include elements related to parking and congestion pricing, improved services for alternative modes of travel, and other market-based measures. However, TDM includes a wide variety of actions that are specifically tailored to the individual needs of an area. Table 8-4 provides a list of several strategies outlined in the ECO program that could be applicable to the Happy Valley area.

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[6] *Urban Growth Management Functional Plan*, Title 2: Regional Parking Policy, Metro, September 22, 2004.

[7] Oregon Administrative Rules, Chapter 340, Division 30.

[8] *The Potential for Land Use Demand Management Policies to Reduce Automobile Trips*, ODOT, by ECO Northwest, June 1992.

Table 8-4: Transportation Demand Management Strategies

Strategy	Description	Potential Trip Reduction
Telecommuting	Employees work at home or at a work center closer to home, rather than commuting from home to work. This can be full time or on selected workdays. This can require computer equipment to be most effective.	82-91% (Full Time) 14-36% (1-2 day/wk)
Compressed Work Week	Schedule where employees work their regular scheduled number of hours in fewer days per week.	7-9% (9 day/80 hr) 16-18% (4 day/40 hr) 32-36% (3 day/36 hr)
Transit Pass Subsidy	For employees who take transit to work on a regular basis, the employer pays for all or part of the cost of a monthly transit pass.	19-32% (full subsidy, high transit service) 2-3% (half subsidy, medium transit service)
Cash Out Employee Parking	An employer that has been subsidizing parking (free parking) discontinues the subsidy and charges all employees for parking. An amount equivalent to the previous subsidy is then provided to each employee, who then can decide which mode of travel to use.	Reduction / Transit 8-20% High 5-9% Medium 2-4% Low
Reduced Parking Cost for HOVs	Parking costs charged to employees are reduced for high occupancy vehicles (HOV) such as carpools and vanpools.	1-3%
Alternative Mode Subsidy	For employees that commute to work by modes other than driving alone, the employer provides a monetary bonus to the employee.	21-34% (full subsidy of cost, high alternative modes) 2-4% (half subsidy of cost, medium alternative modes)
Bicycle Program	Provides support services to those employees that bicycle to work. Examples include: safe/secure bicycle storage, shower facilities and subsidy of commute bicycle purchase.	0-10%
On-site Rideshare Matching for HOVs	Employees who are interested in carpooling or vanpooling provide information to a transportation coordinator regarding their work hours, availability of a vehicle and place of residence. The coordinator then matches employees who can reasonably rideshare together.	1-2%
Provide Vanpools	Employees that live near each other are organized into a vanpool for their trip to work. The employer may subsidize the cost of operation and maintaining the van.	15-25% (company provided van with fee) 30-40% (subsidized van)
Gift/Awards for Alternative Mode Use	Employees are offered the opportunity to receive a gift or an award for using modes other than driving alone.	0-3%
Walking Program	Provide support services for those who walk to work. This could include buying walking shoes or providing lockers and showers.	0-3%
Company Cars for Business Travel	Employees are allowed to use company cars for business-related travel during the day	0-1%
Guaranteed Ride Home Program	A company owned or leased vehicle or taxi fare is provided in the case of an emergency for employees that use alternative modes.	1-3%
Time off with Pay for Alternative Mode Use	Employees are offered time off with pay as an incentive to use alternative modes.	1-2%

Source: *Guidance for Estimating Trip Reductions from Commute Options*, Oregon Department of Environmental Quality, August 1996.

With many regional trips destined to, or traveling through, the Happy Valley area, region wide TDM measures should help to reduce congestion. Metro has established non-SOV (Single Occupancy Vehicle) mode share targets to be achieved by 2040. The 2040 non-SOV model target for corridors (Sunnyside Road) is 45-55%.[9]

The Metro 2025 Regional Demand Model provides an analysis tool for monitoring non-SOV trip percentages between the various RTP funding scenarios. The forecasted non-SOV trip percentages take into account all RTP improvement projects (including transit, pedestrian, and bicycle system improvements), as well as the TAZ performance factors (which includes an increase in parking pricing and a decrease in transit pass fees paid by individual riders). Parking factors are based on a ratio of parking costs in comparison to a South/North Draft Environmental Impact Study (DEIS) parking survey. Transit Pass factors represent the amount of full transit fare that a transit rider is expected to pay (considering ECO rule and discount downtown fares). The RTP projects included in the 2025 financially constrained and priority models for the study area are shown in Table 8-5 and Table 8-6, respectively.

Table 8-5: TDM Improvements included in the RTP Financially Constrained System*

RTP #	Location	Improvement	Jurisdiction	Time-Line	Cost ($1,000s)
5103	County-wide	Advanced transportation system management and ITS program	Clackamas County	2004-2009	$6,514
5211	SE 129th to Mountain Gate Rd	Scott Creek Lane Pedestrian Improvements (construct pedestrian path and bridge crossing)	Happy Valley	2004-2009	$104
5207	Sunnyside Rd to Mt. Talbert	Mt. Scott Trail	Clackamas County/ Happy Valley	2016-2025	$767
5064	Clackamas TC to Oregon City	I-205 Rapid Bus	TriMet	2004-2009	-
7009	145th/147th Avenue	Widen to provide bike lanes from Clatsop Street to Monner Road	Clackamas County/ Happy Valley	2010-2015	$1,040
7010	162nd Avenue	Widen to provide bike lanes from Monner Road to Sunnyside Road	Clackamas County/ Happy Valley	2016-2025	$393
7011	Monner Road	Widen to provide bike lanes from 147th Avenue to 162nd Avenue	Clackamas County/ Happy Valley	2016-2025	$393
7022	Sunnyside Road Frequent Bus	Provide improvements that enhance new frequent bus service from Clackamas regional center to Damascus	TriMet	2010-2015	$913
				TOTAL	**$10,124**

*This project list is based on the *2004 Federal Regional Transportation Plan Update*.

[9] Based on the *2000 Metro Regional Transportation Plan*, Ordinance No. 00-869A (August 10, 2000), page 1-62.

Table 8-6: Additional TDM Improvements included in the RTP Priority System*

RTP #	Location	Improvement	Jurisdiction	Time-Line	Cost ($1,000s)
8030	Region-wide	Vehicle purchases to provide for expanded service – 3.8% per year	TriMet	2004-2025	$546,000
8033	Region-wide	Bus operating facilities	Tri-Met	2004-2025	$152,062
8045	Region-wide	Bus stop improvements	Tri-Met	2004-2025	$13,212
8048	Region-wide	Transit Signal Priority	Tri-Met	2004-2025	$83,746
8051	Region-wide	Regional Travel Options TDM Program	Tri-Met	2004-2025	$47,124
				TOTAL	**$843,584**

*This project list is based on the *2004 Federal Regional Transportation Plan Update.*

An analysis was performed to determine the level of non-single occupant vehicle (SOV) mode share forecasted in 2025. The travel model provides estimates of the various modes of travel that can be generally assessed at the transportation analysis zone level. Generally, the areas served by bus service have the highest levels of non-SOV mode use. The overall Happy Valley TSP study area forecasted non-SOV percentage with the RTP financially constrained improvements is 40%. Additional improvements in the RTP priority scenario increase the overall non-SOV percentage to 42%, which corresponds to an increase of approximately 2%.

These forecasted non-SOV percentages can only be achieved with significant improvements to the transportation system and implementation of trip reduction strategies. The City of Happy Valley will coordinate with Clackamas County and Tri-Met to implement strategies to assure that the TDM assumptions in the RTP are implemented. The City of Happy Valley will coordinate with Clackamas County and Tri-Met to implement the pedestrian, bicycle and transit system improvements, which offer alternative modes of travel. The recommended TDM action plan includes:

- Support continued efforts by Happy Valley, TriMet, Metro, and Clackamas County to develop productive TDM measures that reduce commuter vehicle miles and peak hour trips.
- Encourage the development of high speed communication in all part of the city (fiber optic, digital cable, DSL, etc). The objective would be to allow employers and residents the maximum opportunity to rely upon other systems for conducting business and activities than the transportation system during peak periods.
- Encourage developments that effectively mix land uses to reduce vehicle trip generation. These plans may include development linkages (particularly non-auto) that support greater use of alternative modes.
- Implement motor vehicle minimum and maximum parking ratios for new development.
- Continued implementation of street connectivity requirements.
- Work with employers to install bicycle racks.
- Implementation of bicycle, pedestrian, motor vehicle and transit system action plan.

Future Intersection Capacity Analysis

The motor vehicle capacity needs within the TSP study area were determined for future conditions. This section presents the capacity analysis conducted to determine the street improvements that would be necessary as part of a long-range master plan. Phasing of implementation will be necessary since not all the improvements can be done at once. This will require prioritization of projects and periodic updating to reflect current needs. The improvements outlined in the following section are a guide to defining the types of right-of-way and street needs that will be required as development occurs.

Year 2025 traffic volume forecasts were analyzed to identify locations where evening peak hour performance will drop below minimum desirable levels. This analysis focuses on the 25 study intersections. Traffic volumes were developed as described previously (Chapter 4) and applied to existing intersection geometries. The value in reviewing the motor vehicle system performance is that it highlights where the planned system fails to meet performance standards. These locations will be reviewed to consider street improvements alternatives that could better serve planned growth.

2025 No-Build

A 2025 no-build alternative was created by removing all future capacity projects within the study area and regional facilities in the surrounding area from the 2025 financially constrained model. This scenario evaluated the impact of allowing the development of the 2025 land use forecast without constructing the supporting transportation infrastructure. The 2025 no-build traffic forecasts found that the existing roadway system in the TSP study area is insufficient to handle future capacity needs. As previously shown in Figure 8-1, the majority of roadways operate with over capacity conditions which translate to significant congestion. As expected, all study intersections operate below standard under the 2025 no-build scenario.

2025 Financially Constrained

The 2025 financially constrained scenario includes transportation improvements that are reasonably funded and likely to be constructed by the year 2025. This scenario comprises TDM improvements identified in Table 8-5 plus capacity projects identified in the RTP financially constrained system, shown in Table 8-7.

The construction of the Sunnyside Road widening project from 122nd Avenue to 172nd Avenue has been completed. The most significant project included in the financially constrained system within the study area is the 172nd Avenue widening project. This improvement widens 172nd Avenue to a five-lane facility from Highway 212 to Foster Road. The portion of the project from Sunnyside Road to Highway 212 will begin construction in early 2009. This project is fully designed and funded, therefore the existing conditions of this Plan shows the project as complete.

The Highway 224 Extension project, also known as the first phase of the Sunrise Corridor, provides a major new east-west roadway near the study area. In the financially constrained scenario, the project would construct a new four-lane facility from I-205 to 122nd Avenue. Preliminary plans provided by Clackamas County indicate that access to the facility would be limited to ramps at I-205 and a new interchange near 122nd Avenue just north of Highway 212/224. This project does not include the extension of 122nd Avenue south of Hubbard Road.

Table 8-7: RTP Financially Constrained Motor Vehicle Capacity Improvements*

RTP #	Location	Improvement	Jurisdiction	Time-Line	Cost ($1,000s)
5021	Highway 224 Extension (Sunrise Corridor)	Construct a new four-lane highway from I-205 to 122nd Avenue	ODOT	2010-15	$84,315
5066	122nd Avenue to 172nd Avenue	East Sunnyside Road Improvements (widen to five lanes to improve safety and accessibility to Damascus)	Clackamas County	2010-15	$45,045
5209	122nd/129th Avenue	Sunnyside Road to King Road (widen to three lanes, smooth curves)	Clackamas County	2016-25	$3,465
7000	172nd Avenue	Widen to 5 lanes from Foster Road to Highway 212	Clackamas County	2016-25	$8,085
				TOTAL	**$132,825**

* Based on *2004 Federal Regional Transportation Plan Update*, and includes Financially Constrained Motor Vehicle System projects.

Table 8-8 summarizes the study intersection performance for the 2025 financially constrained scenario. Based on the analysis, the majority of the study intersections would not meet demands with the capacity improvements identified in the RTP financially constrained system. The majority of signalized and four-way stop controlled study intersections operate at LOS F with a demand to capacity ratio greater than 1.0. Most unsignalized intersections operate LOS F for the minor street approach and LOS B or worse for the major street approach.

Forecasted volumes on Sunnyside Road from Valley View Terrace to 152nd Avenue in the eastbound and westbound directions are significantly higher than existing volumes. Without a new parallel east-west route to provide additional capacity for the forecasted land use, the planned five-lane section for Sunnyside Road cannot perform adequately. Forecasted volumes within the center of Happy Valley are also considerably higher than today. The significant congestion on Sunnyside Road results in diverted trips on 122nd/129th Avenue and 152nd Avenue to the north, continuing through the City primarily on King Road, Mt. Scott Boulevard and Idleman Road.

Table 8-8: 2025 Financially Constrained Intersection Level of Service (PM Peak Hour)

Intersection	Level of Service	Delay	Volume/ Capacity
Unsignalized Intersections			
172nd Avenue/Hagen Road	C/F	>50	-
147th Avenue/Monner Road	B/F	>50	-
162nd Avenue/Monner Road	A/D	59.9	-
145th Avenue/King Road	F	>50	>1.0
145th Avenue/Ridgecrest	B/F	>50	-
145th Avenue/Clatsop Road	B/F	>50	-
132nd Avenue /King Road	B/F	>50	-
132nd Avenue/Ridgecrest Road	F	>50	>1.0
132nd Avenue/Clatsop Road	A/F	>50	-
122nd Avenue/Spring Mountain Drive	D/F	>50	-
129th Avenue/Mountain Gate Road	B/F	>50	-
129th Avenue/William Otty Road	B/F	>50	-
129th Avenue/King Road/Mt.Scott Boulevard	F	>50	>1.0
William Otty Road/Kimberly Court	C	22.0	0.85
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	F	>50	>1.0
Valley View/William Otty Road	F	>50	>1.0
Clatsop Street/162nd Avenue	F	>50	>1.0
Vogel Road/172nd Avenue	F	>50	>1.0
Troge Road/172nd Avenue	F	>50	>1.0
Hemrick Road/172nd Avenue	F	>50	>1.0
Sager Road/172nd Avenue	F	>50	>1.0
170th Avenue (Baxter Road)/172nd Avenue	F	>50	>1.0
Signalized Intersections			
Sunnyside Road/Valley View Terrace	F	>80	>1.0
Sunnyside Road/122nd Avenue	F	>80	>1.0
Sunnyside Road/132nd Avenue	F	>80	>1.0
Sunnyside Road/142nd Avenue	C	26.8	1.0
Sunnyside Road/147th Avenue	F	>80	>1.0
Sunnyside Road/152nd Avenue	F	>80	>1.0
Sunnyside Road/157th Avenue	E	80.0	>1.0
Sunnyside Road/162nd Avenue	F	>80	>1.0
Sunnyside Road/172nd Avenue	F	>80	>1.0

Notes: A/A=major street LOS/minor street LOS
Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
Unsignalized delay = highest minor street approach delay
*All-way stop control intersection

2025 Priority

The 2025 Priority scenario includes additional transportation improvement projects that do not have an identified funding source and may not be constructed by the year 2025. This scenario builds on the planned TDM improvements (summarized in Tables 8-5 and 8-6) and capacity improvements previously identified for the 2025 financially constrained system (Table 8-7). Table 8-9 identifies the additional capacity improvements that are included in the priority scenario.

Table 8-9: RTP Priority Motor Vehicle Capacity Improvements*

RTP #	Location	Improvement	Jurisdiction	Time-Line	Cost ($1,000s)
5003	Sunrise Highway Unit 1, Phase 2	Construct new 4-lane facility from 122nd Avenue and Rock Creek Junction	ODOT	2004-09	$104,550
5005	Sunrise Highway Unit 2, Phase 1	Construct new 4-lane facility from Rock Creek Junction to 242nd Avenue	ODOT	2004-09	$184,800
5006	Sunrise Highway Unit 2, Phase 2	Construct new 4-lane facility from 242nd Avenue to US 26	ODOT	2004-09	$177,000
				TOTAL	**$466,350**

* Based on *2004 Federal Regional Transportation Plan Update*, and includes Priority Motor Vehicle System projects.

The Sunrise Corridor project identified in the priority system would provide a significant extension to the east. The project would construct a new four-lane facility from the 122nd Avenue interchange to US 26 in Gresham. Preliminary plans provided by Clackamas County indicate that access to the facility near the study area would be limited to an interchange at the Rock Creek Junction near the Highway 212/224 split. No direct access to the Sunrise Corridor would be provided from 152nd Avenue, 162nd Avenue or 172nd Avenue.

With the addition of the priority projects, several study intersection improve to acceptable operating standards. The majority of the signalized study intersections on Sunnyside Road east of 142nd Avenue meet the level of service standard. This improvement is due in part to the reduction in east-west volume that is now traveling on the Sunrise Corridor. Although volumes are lower in the center of Happy Valley, operating conditions continue at LOS F for the minor street approach at most unsignalized study intersections. Table 8-10 summarizes the study intersection performance for the 2025 priority scenario.

Based on the 2025 priority analysis, the majority of the study intersections would not meet the City's level of service standard with the capacity improvements identified in the RTP priority system. Additional capacity improvements will be needed to provide an adequate transportation system for the forecasted land use.

Table 8-10: 2025 Priority Intersection Level of Service (PM Peak Hour)

Intersection	Level of Service	Delay	Volume/ Capacity
Unsignalized Intersections			
172nd Avenue/Hagen Road	B/F	>50	-
147th Avenue/Monner Road	A/F	>50	-
162nd Avenue/Monner Road	A/D	26.7	-
145th Avenue/King Road	F	>50	>1.0
145th Avenue/Ridgecrest	B/F	>50	-
145th Avenue/Clatsop Road	B/F	>50	-
132nd Avenue /King Road	A/F	>50	-
132nd Avenue/Ridgecrest Road	F	>50	>1.0
132nd Avenue/Clatsop Road	A/F	>50	-
122nd Avenue/Spring Mountain Drive	B/F	>50	-
129th Avenue/Mountain Gate Road	B/F	>50	-
129th Avenue/William Otty Road	A/F	>50	-
129th Avenue/King Road/Mt.Scott Boulevard	F	>50	>1.0
William Otty Road/Kimberly Court	A	9.2	0.43
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	F	>50	>1.0
Valley View/William Otty Road	F	>50	>1.0
Clatsop Street/162nd Avenue	F	>50	>1.0
Vogel Road/172nd Avenue	F	>50	>1.0
Troge Road/172nd Avenue	F	>50	>1.0
Hemrick Road/172nd Avenue	F	>50	>1.0
Sager Road/172nd Avenue	F	>50	>1.0
170th Avenue (Baxter Road)/172nd Avenue	F	>50	>1.0
Signalized Intersections			
Sunnyside Road/Valley View Terrace	F	>80	>1.0
Sunnyside Road/122nd Avenue	F	>80	>1.0
Sunnyside Road/132nd Avenue	F	>80	>1.0
Sunnyside Road/142nd Avenue	C	25.1	0.89
Sunnyside Road/147th Avenue	C	30.5	0.78
Sunnyside Road/152nd Avenue	C	32.0	0.77
Sunnyside Road/157th Avenue	C	32.3	0.75
Sunnyside Road/162nd Avenue	D	36.0	0.67
Sunnyside Road/172nd Avenue	C	30.6	0.66

Notes: A/A=major street LOS/minor street LOS
Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
Unsignalized delay = highest minor street approach delay
*All-way stop control intersection

Priority Plus TSP Recommended Projects

Based on the priority system analysis, additional capacity improvements are recommended to accommodate the forecasted land use within the TSP study area. The following sections summarize the evaluation of proposed planning level roadway network, roadway extensions and intersection improvements to meet future capacity needs.

Proposed Roadway Network

The forecasted 2025 land use indicates significant growth in both housing and employment within the TSP study area. The portion of Happy Valley bounded loosely by Clatsop Street to the north, 145th Avenue and 162nd Avenue to the east, Highway 212 to the south and the west City limits is expected to experience moderate growth in the next 20 years. The major growth areas are the Rock Creek Area bounded by Sunnyside Road, Highway 212, 162nd Avenue and 172nd Avenue, the Scouter Mountain Area bounded by 145th Avenue, 172nd Avenue, Clatsop Street, Monner Road and Hagen Road and the 172nd Avenue corridor from Highway 212 to Foster Road. The recommended planning level roadway system and traffic control are shown in Figure 8-10.

Rock Creek Area – (bounded by Sunnyside, Highway 212, 152nd and 172nd)

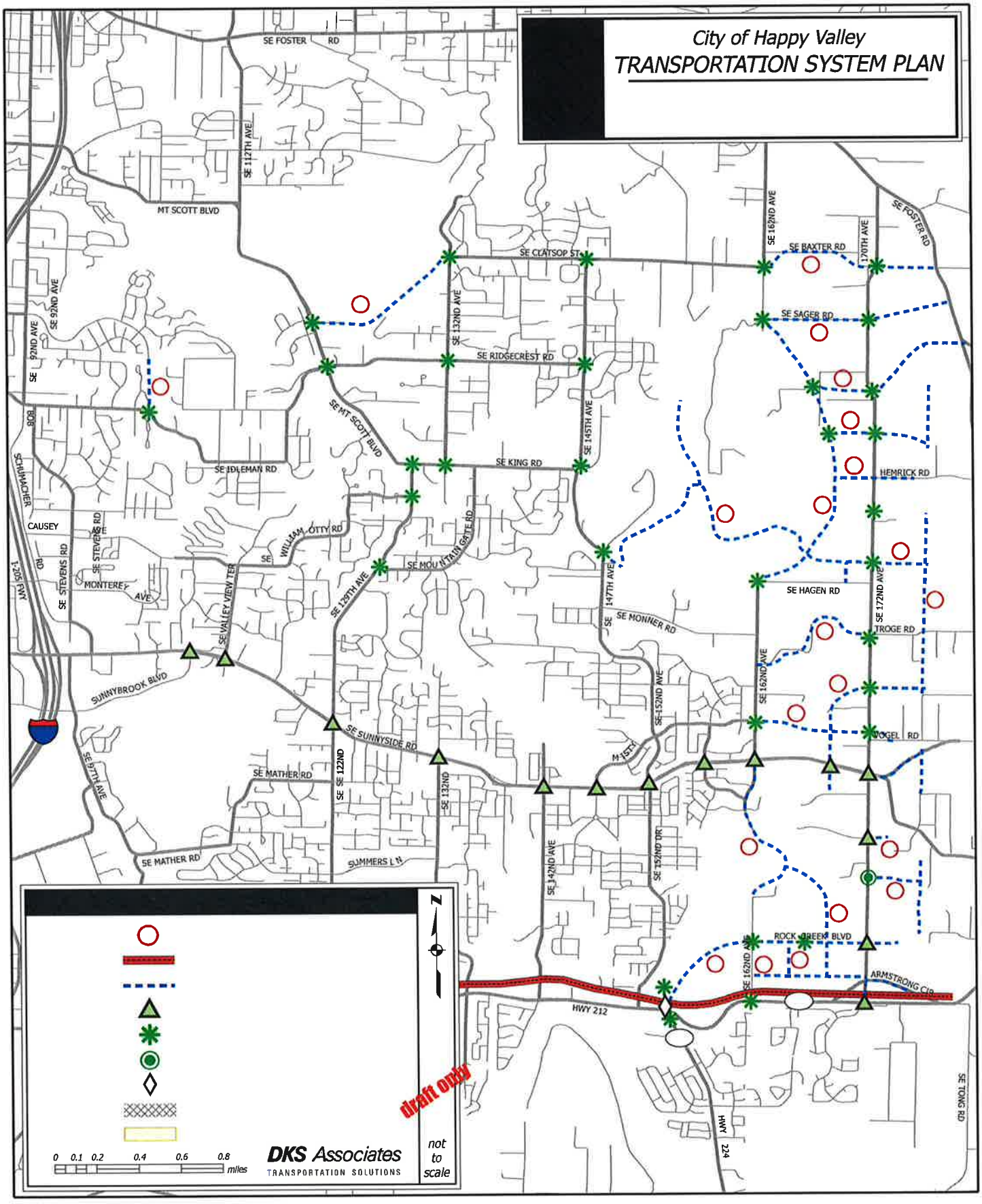
The Rock Creek Area includes moderate housing growth south of Sunnyside Road and a major employment center north of Highway 212 expected to generate more than 5,000 jobs in the next 20 years. An arterial and collector roadway system was developed within the Rock Creek Area to accommodate the future motor vehicle demands. The RTP identified the Sunrise Corridor project would provide a direct regional connection to this area with the planned Rock Creek interchange to alleviate some of the future demand on Sunnyside Road. The proposed Rock Creek Area roadway system is consistent with the conceptual roadway system developed by Clackamas County for the Damascus/Boring Concept Plan.[10]

172nd Avenue would serve as the major north-south arterial in the area. The future design of 172nd Avenue from Sunnyside Road to Highway 212 was recently completed by Clackamas County. The roadway was designed with access management strategies appropriate for a major arterial including a minimum 1,000 foot traffic signal spacing and a raised center median to restrict mid-block left turn movements.

Rock Creek Boulevard would serve as a 5-lane major arterial through the employment center to connect the Sunrise Corridor Rock Creek interchange to 172nd Avenue and Damascus to the east. This would serve local demand from the employment center and provide access to the regional roadway system for trips outside the study area.

The extension of 162nd Avenue south of Sunnyside Road to Highway 212 would provide area-wide connectivity between the residential neighborhoods planned north of Sunnyside Road and the future residential and employment center planned south of Sunnyside Road. This new north-south roadway extension is needed to alleviate future demands on 172nd Avenue. The 162nd Avenue extension has several geographical challenges including a creek crossing and steep grades.

[10] Damascus/Boring Concept Plan, Draft Transportation System Recommendations, Clackamas County, June 17, 2005.


City of Happy Valley
TRANSPORTATION SYSTEM PLAN
SE FOSTER RD
SE 112TH AVE
MT SCOTT BLVD
SE 92ND AVE
SE 82ND AVE
SE CLATSOP ST
SE 132ND AVE
SE RIDGECREST RD
SE MT SCOTT BLVD
SE 145TH AVE
SE KING RD
SE IDLEMAN RD
SCHMACHER RD
CAUSEY
SE STEVENS RD
SE WILLIAM OTTY RD
SE MOUNTAIN GATE RD
SE 129TH AVE
SE VALLEY VIEW TER
MONTEREY AVE
I-205 FWY
SUNNYBROOK BLVD
SE 97TH AVE
SE SUNNYSIDE RD
SE 122ND
SE MATHER RD
SE 132ND
SUMMERS LN
SE 142ND AVE
SE 152ND DR
SE 152ND AVE
SE 147TH AVE
SE MONNER RD
SE 162ND AVE
SE BAXTER RD
170TH AVE
SE FOSTER RD
SE SAGER RD
HEMRICK RD
SE HAGEN RD
SE 172ND AVE
TROGE RD
VOGEL RD
ROCK CREEK BLVD
ARMSTRONG CIR
HWY 212
HWY 224
SE TONG RD
draft only
DKS Associates
TRANSPORTATION SOLUTIONS
0 0.1 0.2 0.4 0.6 0.8 miles
not to scale

A supporting collector roadway system was defined within the employment center area to provide local circulation. The collector facilities were planned a minimum of 1,000 feet apart to establish desirable traffic signal spacing.

The identified roadway network within the Rock Creek Employment Area between Rock Creek and 162nd Avenue does not propose specific alignments but rather serves as a guideline for potential roadway connections. A transportation master plan will be developed for the area which considers all reasonable roadway network alternatives combined with future land use proposals to produce a balance between circulation/capacity needs and land use/environmental sensitivities in the study area.

Scouter Mountain Area – (bounded by 145th, 172nd, Clatsop, Monner and Hagen)

The Scouter Mountain Area has recently been annexed into the City with potential for future residential land use. The forecasted land use includes approximately 5,000 dwelling units on Scouter's Mountain and the adjacent area. Several geographical constraints were considered with the development of the proposed roadway system in this area. The peak elevation of Scouter Mountain is 940-feet while the elevation of the surrounding roadways (145th Avenue, Monner Road and Clatsop Street) are as low as 420-feet. As a result, finding a feasible alignment for several desired roadway connections was difficult. It was assumed that roadways with estimated grades of 12% or lower would be reasonable.

The need for an east-west collector roadway connecting 145th Avenue to 172nd Avenue was identified, however the existing contours in the area result in roadways with grades in excess of 15%. The preliminary alignment for Scouter Mountain Road was selected along the south side of Scouter's Mountain to limit the grade of the roadway and potential environmental impacts.

The extension of 162nd Avenue between Hagen Road and Clatsop Street would provide area-wide north-south connectivity and alleviate future traffic demands on 145th Avenue and 172nd Avenue. The proposed 162nd Avenue alignment is intended to follow the contours of the hillside to keep grades and environmental impacts at a minimum.

The extension of Clatsop Street from 162nd Avenue to 172nd Avenue would provide the only east-west roadway connection between the Happy Valley bowl area (west of 145th Avenue) and the 172nd Avenue corridor. The Clatsop Street extension would be located within the Baxter Road right-of-way for the majority of alignment to reduce environmental impacts.

A supporting north-south and east-west collector roadway system was defined within the area to provide local circulation. The collector facilities were planned approximately one-quarter mile apart to establish desirable traffic signal spacing. The location of the collector intersections along 172nd Avenue are coordinated with the proposed land uses.

Pleasant Valley Golf Course Area – (bounded by 162nd, 172nd, Sunnyside and Hagen)

The Pleasant Valley Golf Course and the adjacent property to the south have a potential for future residential redevelopment. The forecasted land use includes approximately 1,000 dwelling units and 300 employees within the area.

As part of this TSP update, Hagen Road from 162nd Avenue to 172nd Avenue was reclassified from a neighborhood street to a local street. The roadway currently has single family homes along the frontage resulting in significant impacts if the roadway were improved to the collector cross-section and extended further to the east and west. To reduce impacts, a new collector roadway is recommended north of Hagen Road. The new collector would be located an appropriate distance

north of Hagen Road to allow for single family development along the north side of Hagen Road and a deep enough block on the south side of the new collector to allow for development. The new Scouter's Mountain Road would extend to the west connecting to 147th Avenue north of Monner Road and to the east to 177th Avenue. Hagen Road would end in a cul de sac just west of 172nd Avenue.

A supporting north-south and east-west collector roadway system was defined within the area to provide local circulation. The collector facilities were planned approximately one-quarter mile apart to establish desirable traffic signal spacing. The extension of Troge Road west of 172nd Avenue is shown with the alignment included as part of the current Pleasant Valley PUD site plans. The Sunnyside Road Improvements Phase 3B plans include a proposed traffic signal at Sunnyside Road/169th Avenue. A collector roadway is proposed from this intersection to the north continuing to 172nd Avenue north of Vogel Road to provide adequate access to the adjacent commercial land use. The east-west extension of Misty Drive from 162nd Avenue to 172nd Avenue would have several geographical challenges including a creek crossing and steep grades.

Sunrise Corridor

The 2025 Priority scenario includes the Sunrise Corridor project as a four lane expressway from I-205 to US 26. The forecasted 2025 Priority scenario volumes on Sunnyside Road between I-205 and 172nd Avenue indicate a need for additional east-west capacity in the study area. To accommodate future traffic demands, the Sunrise Corridor may require additional lanes. The Sunrise Corridor project is an on-going planning effort by ODOT. Specific project needs such as cross-section and alignment will be determined in the Supplemental Draft Environmental Impact Statement planned for completion in early 2009.

177th Avenue

The need for a north-south collector facility to the east of 172nd Avenue was identified. This new north-south roadway would alleviate future demands on 172nd Avenue by providing an adequate roadway circulation system. The proposed 177th Avenue alignment would have several geographical challenges including creek crossings and steep grades.

Roadway Extension Projects

There are a number of locations in Happy Valley where, due to the lack of alternative routes, there is an imbalance of traffic volumes that load onto one street. A well connected transportation system limits out of direction travel for motorists, bicycles and pedestrians and reduces vehicle miles traveled within the study area. Several roadway extension projects are recommended to:

- Allow local traffic to make in-town trips using well connected streets without traveling on arterial roadways.
- Limit traffic growth on Ridgecrest Road and 132nd Avenue.
- Reduce vehicle miles traveled (VMT) within the study area by limiting out of way travel patterns for all modes.
- Provide an adequate roadway system for future local development.

An extension of Clatsop Street west of 132nd Avenue connecting to Mt. Scott Boulevard would fill in a large gap in the street system. This roadway would provide additional east-west capacity in the northern part of the City and improve connectivity for all modes of travel. The proposed connections would alleviate future traffic demands on Ridgecrest Road and 132nd Avenue. The

identified Clatsop Street extension does not propose a specific roadway alignment but rather serves as a guideline for a potential roadway connection. A detailed transportation subarea analysis will be required which considers all reasonable roadway network alternatives combined with future land use proposals to produce a balance between circulation/capacity needs and land use/environmental sensitivities in the study area.

The Johnson Creek extension continues the existing roadway up the hill to Idleman Road. The proposed connections would provide an alternative route into Happy Valley from I-205 and improve connectivity for all modes of travel. The majority of this facility was constructed as part of the Altamont PUD.

Study Intersection Improvements

With the addition of the proposed roadway network and extensions described in the previous sections, the 2025 priority system plus TSP recommended project scenario was developed to forecast study intersections volumes. The operational analysis found that significant improvements would be required at the majority of the study intersections to accommodate the forecasted growth. These potential improvements include traffic signal control or roundabout control, additional turn lanes, roadway widening, access management and traffic signal coordination.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants[11] were evaluated at all unsignalized study intersections under year 2025 priority traffic volume conditions. The Peak Hour Warrant analysis was based on PM peak hour traffic volumes . The results of this analysis are shown in Table 8-11.

Preliminary traffic signal warrants were met at several study intersections under year 2025 priority plus traffic volume conditions. Intersections meeting PM peak hour traffic signal warrants will be analyzed at a future date based on Eight Hour Warrants before construction of a traffic signal occurs. Meeting traffic signal warrants does not guarantee that a signal will be installed, but provides criteria to be utilized along with engineering judgment. The installation of a roundabout shall also be considered at intersections with substandard performance before a traffic signal is installed.

Traffic signal control or roundabout control is recommended in the Motor Vehicle Master Plan at several study intersections based on the preliminary traffic signal warrant analysis to improve traffic operations and safety for both vehicles and pedestrians.

[11] Preliminary Signal Warrants, MUTCD Warrant 3 (Peak Hour Vehicular Volume).

Table 8-11: 2025 Priority System PM Peak Hour Signal Warrant Analysis

Intersection	PM Peak Hour Signal Warrant Met?
172nd Avenue/Hagen Road	No
147th Avenue/Monner Road	No
162nd Avenue/Monner Road	No
145th Avenue/King Road	Yes
145th Avenue/Ridgecrest Road	Yes
145th Avenue/Clatsop Road	Yes
132nd Avenue /King Road	Yes
132nd Avenue/Ridgecrest Road	Yes
132nd Avenue/Clatsop Road	Yes
122nd Avenue/Spring Mountain Dr	No
129th Avenue/Mountain Gate Road	Yes
129th Avenue/William Otty Road	Yes
129th Ave/King Road/Mt.Scott Blvd	Yes
William Otty Road/Kimberly Court	No
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	Yes
Valley View/William Otty Road	No
Clatsop Street/162nd Avenue	Yes
Vogel Road/172nd Avenue	Yes
Troge Road/172nd Avenue	Yes
Hemrick Road/172nd Avenue	Yes
Sager Road/172nd Avenue	Yes
170th Avenue (Baxter Road)/172nd Avenue	Yes

Motor Vehicle Master Plan

The Motor Vehicle Master Plan combines both improvement projects identified in prior plans (Happy Valley TSP, Clackamas County TSP, Rock Creek Plan, Metro RTP, etc.) and those determined as the outcome of the Happy Valley TSP update analysis. These improvements are shown in Figure 8-10 and listed below in Table 8-12. The proposed new roadways/extension projects listed in Table 8-12 have been identified (i.e. Roadway A) to correspond with the labels shown in Figure 8-10.

The planning level cost estimates provided are based on general unit costs for transportation improvements, but do not necessarily reflect the unique project elements that can significantly add to project costs. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued. The estimated cost to obtain required right-of-way was included in all of the roadway widening projects. Right-of-way costs were also included in the cost estimates for the162nd Avenue extensions (north and south) and the Rock Creek major arterial. The construction of these roadways would be required prior to construction of the adjacent properties to support the future development. It was assumed that the new roadway/extension projects (except the 162nd Avenue

extensions and the Rock Creek major arterial) would be constructed on land dedicated by the associated development, therefore, right-of-way costs are not included in their cost estimates.

Table 8-12: Motor Vehicle Master Plan Projects

Project	Improvement	Cost ($1,000s)
Roadway Widening		
Clatsop Street Widening West	Widen to 3-lane collector between 132nd Avenue and 145th Avenue	$3,350
Clatsop Street Widening East	Widen to 3-lane collector between 145th Avenue and 162nd Avenue	$4,450
172nd Avenue Widening North	Widen to 5-lane major arterial between Sunnyside Road and Clatsop Street	$21,300
Sager Road Widening	Widen to 3-lane collector between 162nd Avenue and 172nd Avenue	$1,950
122nd/129th Avenue Widening	Widen to 3-lane collector between Sunnyside Road and King Road and smooth curves	$4,800
King Road Widening	Widen to a 3-lane collector cross-section between 129th Avenue and 145th Avenue	$3,500
132nd Avenue Widening	Widen to 3-lane collector from Clatsop Street to King Road	$4,550
145th Avenue Widening	Widen to 3-lane collector from Clatsop Street to Monner Road	$7,700
Mt. Scott Boulevard	Widen to 3-lane collector from 129th Avenue to north City limits	$4,450
162nd Avenue Widening	Widen to 3-lane collector from Palermo Avenue to Sunnyside Road	$3,900
Idleman Road Widening	Widen to 3-lane collector from Mt. Scott Boulevard to west city limits, correct roadway alignment.	$9,250
Valley View Terrace Widening	Widen to 3-lane collector from Sunnyside Road to William Otty Road	$1,400
New Roadways/Extensions		
Johnson Creek Road Extension (Roadway A)	Extend Johnson Creek Road to connect to Idleman Road.	$1,000
Clatsop Street Extension West** (Roadway B)	Construct a new 3-lane collector between 132nd Avenue and Mt. Scott Boulevard.	$3,000
Clatsop Street Extension East** (Roadway C)	Construct a new 3-lane collector between 162nd Avenue and Foster Road.	$3,400
162nd Avenue Extension North** (Roadway D)	Construct a new 2/3-lane collector between Hagen Road and Clatsop Street.	$14,600
162nd Avenue Extension South** (Roadway E)	Construct a new 3-lane collector south of the Taralon development to Highway 212.	$8,800
Sager Road** (Roadway F)	Construct a new 3-lane east-west collector from 172nd Avenue to Foster Road.	$1,600
Scouter Mountain East Roadway #1** (Roadway G)	Construct a new 3-lane east-west collector from 162nd Avenue to 172nd Avenue. Construct a new 5-lane arterial from 172nd Avenue to Foster Road/Tillstrom Road.	$3,850
Scouter Mountain East Roadway #2** (Roadway H)	Construct a new 3-lane east-west collector from 162nd Avenue to 177th Avenue.	$1,850
Hemrick Road Extension** (Roadway I)	Construct a new 3-lane east-west collector from 162nd Avenue to 177th Avenue.	$1,700
Scouter Mountain Road**	Construct a new east-west collector on the south	$7,600

Project	Improvement	Cost ($1,000s)
(Roadway J)	side of Scouter's Mountain between 147th Avenue and 177th Avenue.	
Troge Road Extension** (Roadway K)	Construct a new 3-lane collector between 162nd Avenue and 177th Avenue.	$2,700
169th Avenue Extension** (Roadway L)	Construct a new 3-lane collector from Sunnyside Road to 177th Avenue	$2,950
Misty Drive Extension** (Roadway M)	Construct a new 3-lane east-west collector from 162nd Avenue and 177th Avenue.	$3,200
Rock Creek Court Extension** (Roadway N)	Construct a new 3-lane east-west collector from 172nd Avenue and 177th Avenue.	$1,000
Creekwood Road Extension** (Roadway O)	Construct a new 3-lane east-west collector from 172nd Avenue and 177th Avenue.	$1,000
Rock Creek Boulevard** (Roadway P)	Construct a new 5-lane east-west major arterial from 177th Avenue to the Sunrise Corridor Rock Creek interchange.	$17,000
Rock Creek East-West Collector** (Roadway Q)	Construct a new 3-lane east-west collector between 162nd Avenue and 172nd Avenue.	$2,100
Parklane Loop** (Roadway R)	Construct a new 3-lane north-south collector from 162nd Avenue to Rock Creek Collector	$2,450
167th Avenue** (Roadway S)	Construct a new 3-lane north-south collector from Rock Creek Boulevard to Rock Creek Collector	$650
177th Avenue** (Roadway T)	Construct a new 3-lane north-south collector from Scouter Mountain East Roadway #1 to Armstrong Circle.	$11,950
Intersection Improvements		
129th Avenue/Mt. Scott Boulevard/King Road	Install a traffic signal or roundabout, add eastbound right turn lane	$500
129th Avenue/Mountain Gate Road	Install a traffic signal or roundabout	$250
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	Install a traffic signal or roundabout, improve vertical curve, align eastbound and westbound approaches	$500
Mt. Scott Boulevard/Clatsop Street	Install a traffic signal or roundabout	$250
145th Avenue/Ridgecrest Road	Install a traffic signal or roundabout	$250
145th Avenue/King Road	Install a traffic signal or roundabout	$250
129th Avenue/William Otty Road	Install a traffic signal or roundabout	$250
145th Avenue/Clatsop Road	Install a traffic signal or roundabout	$250
132nd Avenue/King Road	Install a traffic signal or roundabout	$250
132nd Avenue/Ridgecrest Road	Install a traffic signal or roundabout	$250
132nd Avenue/Clatsop Road	Install a traffic signal or roundabout	$250
Johnson Creek Road/Idleman Road	Install a traffic signal or roundabout	$250
172nd Avenue/Clatsop Street	Install a traffic signal or roundabout	$250
172nd Avenue/Sager Road	Install a traffic signal or roundabout	$250
172nd Avenue/Scouter Mountain East Roadway #1	Install a traffic signal or roundabout	$250
172nd Avenue/Scouter Mountain East Roadway #2	Install a traffic signal or roundabout	$250
172nd Avenue/Hemrick Road	Install a traffic signal or roundabout	$250
172nd Avenue/Scouter Mountain Road	Install a traffic signal or roundabout	$250
172nd Avenue/Troge Road	Install a traffic signal or roundabout	$250
172nd Avenue/169th Avenue Extension	Install a traffic signal or roundabout	$250
172nd Avenue/Misty Drive	Install a traffic signal or roundabout	$250
Sunnyside Road/169th Avenue	Install a traffic signal or roundabout	$250
162nd Avenue/Clatsop Street	Install a traffic signal or roundabout	$250

Project	Improvement	Cost ($1,000s)
162nd Avenue/Sager Road	Install a traffic signal or roundabout	$250
162nd Avenue/Scouter Mountain East Roadway #1	Install a traffic signal or roundabout	$250
162nd Avenue/Scouter Mountain East Roadway #2	Install a traffic signal or roundabout	$250
162nd Avenue/Hemrick Road	Install a traffic signal or roundabout	$250
162nd Avenue/Scouter Mountain Road	Install a traffic signal or roundabout	$250
162nd Avenue/Misty Drive	Install a traffic signal or roundabout	$250
147th Avenue/Scouter Mountain Road	Install a traffic signal or roundabout	$250
162nd Avenue/Parklane Loop	Install a traffic signal or roundabout	$250
162nd Avenue/Rock Creek Boulevard	Install a traffic signal or roundabout	$250
162nd Avenue/Rock Creek Collector	Install a traffic signal or roundabout	$250
167th Avenue/Rock Creek Boulevard	Install a traffic signal or roundabout	$250
Parklane Loop/Rock Creek Boulevard	Install a traffic signal or roundabout	$250
	Total Motor Vehicle Master Plan Cost	**$172,250**

**These projects would only occur with future development or redevelopment and would not be initiated by the City.
Note: Right-of-way is included in the cost estimates for the widening projects, the 162nd Avenue extensions (north and south) and the new Rock Creek major arterial roadway.

Table 8-13 summarizes study intersection capacity operations for the 2025 Priority Plus scenario with includes the recommended Motor Vehicle Master Plan projects. The recommended improvements for each study intersection are summarized in Table 8-12 above. The majority of study intersections meet City operating standards.

The 122nd Avenue/Spring Mountain Drive intersection continues to operate with LOS F for the minor street approach under the 2025 Priority Plus scenario. Based on the 2025 forecast, this intersection does not meet warrants for a traffic signal or additional turn lanes. The local street connectivity within the Spring Mountain Drive neighborhood is adequate to provide alternative routes to signalized intersection at both 122nd Avenue and Sunnyside Road. Therefore, no improvements at the 122nd Avenue/Spring Mountain Drive intersection are recommended.

The signalized study intersections on Sunnyside Road from Valley View Terrace to 152nd Avenue continue to operate below minimum performance standards under the 2025 Priority Plus scenario. Major roadway improvements to this portion of Sunnyside Road have recently been constructed. Additional roadway improvements to this newly completed construction project is not feasible within the next 20 years. Therefore, no additional roadway projects are recommended at these intersections in the Motor Vehicle Master Plan.

The Sunnyside Road corridor within the TSP study area is forecasted to carry significant east-west volumes in the 2025 Priority Plus scenario which includes a four-lane Sunrise Corridor facility from I-205 to US 26. A large portion of the volume increase is attributed to nearby planned major growth areas, including Pleasant Valley and Damascus/Boring. Although local transportation plans (some preliminary) have been developed for these planned growth areas, their expected impacts to adjacent areas (including Happy Valley) and regional facilities will need to be addressed.

Table 8-13: 2025 Priority Plus Intersection Level of Service (PM Peak Hour)

Intersection	Level of Service	Delay	Volume/ Capacity
Unsignalized Intersections			
172nd Avenue/Hagen Road	-/C	16.7	-
147th Avenue/Monner Road	A/D	32.9	-
162nd Avenue/Monner Road	A/D	30.4	-
122nd Avenue/Spring Mountain Drive	B/F	>50.0	-
William Otty Road/Kimberly Court	A/A	8.8	0.42
Valley View/William Otty Road	C	17.9	0.80
Signalized Intersections			
Sunnyside Road/Valley View Terrace	F	>80	>1.0
Sunnyside Road/122nd Avenue	F	>80	>1.0
Sunnyside Road/132nd Avenue	F	>80	>1.0
Sunnyside Road/142nd Avenue	E	74.0	>1.0
Sunnyside Road/147th Avenue	F	>80	>1.0
Sunnyside Road/152nd Avenue	E	>80	>1.0
Sunnyside Road/157th Avenue	C	32.0	0.65
Sunnyside Road/162nd Avenue	C	35.0	0.66
Sunnyside Road/172nd Avenue	D	38.8	0.75
129th Avenue/King Road/Mt.Scott Boulevard	D	38.6	0.85
129th Avenue/William Otty Road	B	17.0	0.66
129th Avenue/Mountain Gate Road	B	13.0	0.79
132nd Avenue/Ridgecrest Road	B	16.1	0.65
132nd Avenue/Clatsop Road	B	17.5	0.59
132nd Avenue /King Road	B	17.1	0.85
145th Avenue/Clatsop Road	B	13.4	0.49
145th Avenue/Ridgecrest	B	16.2	0.53
145th Avenue/King Road	B	17.6	0.65
Mt. Scott Boulevard/Idleman Road/Ridgecrest Road	C	20.7	0.64
Clatsop Street/162nd Avenue	C	35.0	0.66
Vogel Road/172nd Avenue	B	17.0	0.66
Troge Road/172nd Avenue	B	13.0	0.79
Hemrick Road/172nd Avenue	B	13.4	0.49
Sager Road/172nd Avenue	C	32.0	0.65
170th Avenue (Baxter Road)/172nd Avenue	C	20.7	0.64

Notes: A/A=major street LOS/minor street LOS
Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
Unsignalized delay = highest minor street approach delay
*All-way stop control intersection

Motor Vehicle Action Plan

A motor vehicle system action plan project list was created to identify motor vehicle projects that are reasonably expected to be funded by the year 2025, which meets the requirements of the updated Transportation Planning Rule[12]. Table 8-14 shows the action plan which combines projects identified in the RTP Priority scenario with additional projects that have been identified in the TSP update analysis. The construction of new collector and arterial facilities would only occur to support future development or redevelopment and would not be initiated by the City. The potential funding source serves as a guide for financing options the City should pursue. The estimated schedule is based on the RTP time line unless more current information is available.

Table 8-14: Motor Vehicle Action Plan Projects

Project	Improvement	Potential Funding Source	Estimated Schedule	Cost ($1,000s)
172nd Avenue Widening North	Widen to 5-lane major arterial between Sunnyside Road and Clatsop Street.	Joint SDC Fund	2021-2025	$21,300
122nd/129th Avenue Widening	Widen to 3-lane collector between Sunnyside Road and King Road and smooth curves.	Joint SDC Fund	2016-2025	$4,800
162nd Avenue Widening	Widen to 3-lane collector from Hagen Road to Palermo Avenue.	Joint SDC Fund	-	$3,900
162nd Avenue Extension South**	Construct a new 3-lane collector south of the Taralon development to Highway 212.	Joint SDC Fund	-	$8,800
162nd Avenue Extension North**	Construct a new 2/3-lane collector between Hagen Road and Clatsop Street.	Joint SDC Fund	-	$14,600
Clatsop Street Extension East**	Construct a new 3-lane collector between 162nd Avenue and 177th Avenue.	Joint SDC Fund	-	$3,400
Scouter Mountain Road**	Construct a new east-west collector on the south side of Scouter's Mountain between 147th Avenue and 177th Avenue.	Joint SDC Fund	-	$7,600
Rock Creek Boulevard**	Construct a new 5-lane east-west major arterial from 177th Avenue to the Sunrise Corridor Rock Creek interchange.	Joint SDC Fund	-	$17,000
			Total Motor Vehicle Project Costs	**$81,400**

**These projects would only occur with development or redevelopment and would not be initiated by the City.

[12] *OAR Chapter 660*, Department of Land Conservation and Development, Division 012, Transportation Planning, adopted on March 15, 2005, effective April 2005.

Trucks

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The establishment of through truck routes provides for this efficient movement while at the same time maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Sunnyside Road and 172nd Avenue are recommended as designated through truck routes in the TSP study area. The objective of these route designations is to allow these routes to focus on design criteria that are "truck friendly"; i.e. 12-foot travel lanes, longer access spacing, 35-foot (or larger) curb returns and pavement design that accommodates a larger share of trucks.

city's population growth, which is expected to be significant. Happy Valley is expected to receive approximately $14.9 million over the next 20 years based on population forecasts.

Portland General Electric Privilege Tax

The privilege tax represents the fee PGE pays a city for the use of the public right-of-way for utilities. Privilege taxes are typically calculated at 3.5 to 5 percent of annual gross revenues within the city limits. For the fiscal year 2004/2005, Happy Valley set aside approximately $39,000 of the privilege tax received into a sidewalk fund. Assuming that the current tax received remains relatively consistent and the same portion is set aside, Happy Valley can expect to receive $780,000 for the sidewalk fund over the next 20 years.

System Development Charge

The System Development Charge (SDC) for streets is used as a funding source for all capacity adding projects for the transportation system. The current Happy Valley/Clackamas County Joint Transportation SDC District was adopted in 2006. This district is bordered by I-205 to the west, Multnomah County to the north, 172nd Avenue to the east and Highway 212 to the south. The funds collected can be used to construct or improve portions of streets with the district.

The SDC fee is collected from new development based on the proposed land use and size. The SDC fees are determined based on each land use's potential to generate vehicle trips. The current SDC rate[1] for a single family home is $6,642 per dwelling unit and it is among the highest transportation SDC rates in the State of Oregon. Other current SDC rates range from $8,098 per 1,000 square feet for a general office building to $38,310 per 1,000 square feet for a supermarket.

For fiscal year 2004/2005, the income from the SDC for development within Happy Valley was $1,309,320. The SDC income potential over the next 20 years was estimated based on the forecasted household and employment growth within the future City limits. Happy Valley is expected to collect approximately $150 million from SDC fees over the next 20 years based on land use forecasts.

Summary

Table 10-1 summarizes the current funding sources and the estimated revenue over the next 20 years. Total revenues collected over 20 years would be $166 million with the current sources. The majority of these funds are from estimated SDC fees which are based on the future land use forecasts and would be obtained from potential development. If the forecasted future growth does not occur then the amount of SDC revenue would be reduced drastically.

[1] Transportation System Development Charges Methodology Update Report, Happy Valley/Clackamas County Joint Capital Improvement Plan Area, Don Ganer & Associates, Inc., November 30, 2006.

Table 10-1: Current Transportation Revenues for Happy Valley

Funding Category	2004/2005 Annual Amount Collected	Estimated 20 Year Revenues
State Fuel Apportionment & Vehicle License Fee	$313,000	$14,930,000
PGE Privilege Tax	$39,000	$780,000
System Development Charge (Street)	$1,309,000	$150,309,896
Total Revenues	**$1,661,000**	**$166,019,896**

Source: City of Happy Valley

Projects and Programs

This section presents the recommended projects and programs developed for the City of Happy Valley to serve local travel for the coming 20 years. The Pedestrian, Bicycle Transit, and Motor Vehicle projects were identified in the Action Plan for each mode, and represent those projects that have the highest short-term need for implementation to satisfy performance standards, or other policies established for the Happy Valley Transportation System Plan. The costs for the remaining motor vehicle projects noted in the Motor Vehicle Master Plan are identified, but these have not been included in the funding needs analysis for the city because the Action Plan is limited to projects most likely to be funded within the planning horizon. Other projects on the Master Plan list require additional funding, and they are expected to be built beyond the 20 year horizon.

Project Cost Estimates

Cost estimates (general, order of magnitude) were developed for the projects identified in the motor vehicle, bicycle, transit, and pedestrian elements. Cost estimates from the existing RTP, County and/or City projects in Happy Valley were used in this study, if available. Other projects were estimated using general unit costs for transportation improvements, but do not reflect the unique project elements that can significantly add to project costs[2]. Development of more detailed project costs can be prepared in the future with more refined financial analysis. Since many of the projects overlap elements of various modes, the costs were developed at a project level incorporating all modes, as appropriate. It may be desirable to break project mode elements out separately, however, in most cases, there are greater cost efficiencies of undertaking a combined, overall project. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued.

All cost estimates are based on 2005 dollars. The historical construction costs price index has increased by 2.5 to 2.75 percent per year according to Engineering News Record research[3] . Construction costs have increased 100 percent in the 20 years from 1979 to 1999.

[2] General plan level cost estimates do not reflect specific project construction costs, but represent an average estimate. Further preliminary engineering evaluation is required to determine impacts to right-of-way, environmental mitigation and/or utilities. Experience has shown that individual projects costs can increase by 25 to 75 percent as a result of the above factors.

[3] Engineering News Record Construction Cost Index as reported for the past ten years for 20 cities around the United States. Reference: http://www.enr.com/features/conEco/costIndexes/constIndexHist.asp

Other Transportation Programs and Services

In addition to the physical system improvements identified in the previous section, the transportation facilities will require on-going operation and maintenance improvements across a variety of areas. These other transportation programs are recommended to respond to the specific policies and needs in maintaining roadway pavement quality, supporting safe routes to schools programs, allocations for implementing neighborhood traffic management, and on-going update and support of related planning documents.

Roadway Maintenance

The current annual cost of maintaining roadways under the jurisdiction of Happy Valley was estimated at $381,000, a portion of which is paid for by gas tax revenues from the state. Future annual maintenance costs for Happy Valley roadways will likely increase as the City takes jurisdiction over existing roadways from Clackamas County and new roadways within the City limits. It was assumed that over the next 20 years, the number of roadway miles the City would be responsible for maintaining would double. To estimate the City's road maintenance responsibility over the next 20 years, the annual maintenance costs (in 2005 dollars) for Happy Valley was increased by 50% resulting in an estimated cost of $11.4 million to maintain roadways.

School Safety Program

Each school within the city should be evaluated to review the convenience and safety of connections for pedestrians and bicycle travel from the neighborhoods that they serve. A "Safe Route to School" plan identifies key routes for pedestrian and bike circulation around the schools, and suggests needed improvements to traffic controls, crossing management, and on-site circulation that would improve safety for school-aged children. An annual allocation of $5,000 is set aside for this purpose.

Neighborhood Traffic Management (NTM)

Specific NTM projects are not defined. These projects will be subject to neighborhood consensus based upon City placement and design criteria. A City-wide NTM program, if desired, should be developed with criteria and policies adopted by the City Council. Speed humps can cost $2,000 to $4,000 each and traffic circles can cost $3,000 to $8,000 each. A speed trailer can cost about $10,000. It is important, where appropriate, that any new development incorporate elements of NTM as part of its on-site mitigation of traffic impacts. Annual allocation of $10,000 is identified for the program development and implementation of NTM projects.

Happy Valley Costs for TSP Action Plans

The cost estimates outlined in the Transportation System Plan to implement the Action Plans for Motor Vehicles, Transit, Bicycles and Pedestrians total $82.1 million, and the recommended transportation operations and maintenance programs would add $11.7 million for a total cost over 20 years of $93.8 million. Refer to Chapter 4 through 9 for details on the individual projects by travel mode. Note that some additional projects are listed in the Action Plans that are expected to be funded by other agencies (Metro, TriMet). These non-City costs have not been included in the estimates in Table 10-2, but are identified in the master plans.

10. Financing & Implementation

This chapter outlines the funding sources that can be used to meet the needs of the transportation system. The costs for the elements of the transportation system plan are outlined and compared to the potential revenue sources. Options are discussed regarding how the costs of the plan and revenues can be balanced.

Current Funding Strategies

Transportation funding is commonly viewed as a user fee system where the users of the system pay for infrastructure through motor vehicle fees (such as gas tax and registration fees) or transit fares. However, a great share of motor vehicle user fees goes to road maintenance, operation and preservation of the system rather than construction of new system capacity. Much of what the public views as new construction is commonly funded (partially or fully) through local improvement districts (LIDs) and frontage or off-site improvements required as mitigation for land development.

The City of Happy Valley currently utilizes three sources to fund construction of its transportation infrastructure as described below. These sources collect revenue each year that is used to maintain street facilities or construct new roadway improvements, with some restrictions on the type and location of projects.

State Fuel Tax and Vehicle License Fee

The State of Oregon Highway Trust Fund collects various taxes and fees on fuel, vehicle licenses, and permits. A portion is paid to cities annually on a per capita basis. By statute, the money may be used for any road-related purpose. Happy Valley uses it for street operating needs.

Oregon gas taxes are collected as a fixed amount per gallon of gasoline served. Gas tax in Oregon has not increased since 1992 (currently 24 cents per gallon), and this tax does not vary with changes in gasoline prices. There is no adjustment for inflation tied to the gas tax, so the lack of change since 1992 means that the net revenue collected has gradually eroded over time as the cost to construct and repair transport systems increase. Fuel efficiency in new vehicles has further reduced the total dollars collected through this system. Oregon vehicle registration fees are collected as a fixed amount at the time a vehicle is registered with the Department of Motor Vehicles. Vehicle registration fees in Oregon have recently increased from $15 per vehicle per year to $27 per vehicle per year for passenger cars, with similar increases for other vehicle types. There is no adjustment for inflation tied to vehicle registration fees.

In 2004, Happy Valley received about $313,000 in State gas tax and vehicle license fee revenue. Essentially all of these funds are spent on roadway surface maintenance of local streets. Because there is no index for cost inflation, this revenue level will increase only proportionate with the

9. Other Modes Plan

This chapter summarizes existing and future rail, air and water transportation needs in the City of Happy Valley. While auto, transit, bicycle and pedestrian transportation modes have a more significant effect on the quality of life in Happy Valley, other modes of transportation must be considered and addressed.

Policies

No goals or policies were developed related to rail, air, water or pipeline transportation systems. However, one policy was developed which relates to the future use of alternative fuel vehicles in Happy Valley:

- Policy 1c: The City shall encourage the use of alternative fuel vehicles and the use of more efficient transportation modes.

Recommended Facilities

Alternative Fuel Vehicles

The use of alternative fuel vehicles should be encouraged in Happy Valley. This could be achieved by providing incentives for electric car charging spaces at key activity centers and biodiesel fuel stations within the City. Alternative fuel vehicles would use the same right-of-way as gasoline-powered vehicles.

Rail

There are no rail facilities within the City of Happy Valley. There are not expected to be any rail facilities within the City in the near future. Due to these considerations, no policies or recommendations in this area of transportation is provided for Happy Valley.

Air

There are no airports within the City of Happy Valley. Passenger service to Happy Valley residents is provided via Portland International Airport, approximately 10 miles to the north of Happy Valley.

Water

There are no navigable waterways in the Happy Valley TSP study area. No policies or recommendations in this area of transportation are provided.

Table 10-2: Happy Valley Transportation Action Plan Costs over 20 years (2005 Dollars)

Transportation Element	Approximate Cost ($1,000)
System Improvement Projects (Action Plans projects to be funded by the City)	
Pedestrian	$660
Bicycle	$0
Transit	$0
Motor Vehicle	$81,400
Total Capital Projects	**$82,060**
Operations and Maintenance Programs and Services	
Road Maintenance ($381,000/yr plus 150%)	$11,430
School Safety Program ($5,000/yr)	$100
Neighborhood Traffic Management ($10,000/yr)	$200
Total Operations and Maintenance Programs	**$11,730**
20 YEAR TOTAL	**$93,790**

The estimated $93.8 million for transportation capital projects and maintenance is expected to be adequately funded by the 20-year revenue estimate of $166 million (see Table 10-1). New funding sources to allow additional project on future Action Plans are discussed in the next section.

New Funding Sources and Opportunities

The new transportation improvement projects and recommended programs will require funding beyond the levels currently collected by the City. There are several potential funding sources for transportation improvements. This section summarizes several funding options available for transportation improvements. These are sources that have been used in the past by agencies in Oregon. In most cases, these funding sources, when used collectively, are sufficient to fund transportation improvements for local communities. Due to the complexity of today's transportation projects, it is necessary to seek several avenues of funding projects. Unique or hybrid funding of projects generally will include these funding sources combined in a new package.

Within the Portland region, funding for major transportation projects often is brought to a vote of the public for approval. This is usually for a large project or list of projects. Examples of this public funding include the Westside Light Rail Project. Because of the need to gain public approval for transportation funding, it is important to develop a consensus in the community that supports needed transportation improvements. That is the value of the Transportation System Plan. In most communities where time is taken to build a consensus regarding a transportation plan, funding sources can be developed to meet the needs of the community.

Transportation program funding options range from local taxes, assessments, and charges to state and federal appropriations, grants, and loans. All of these resources can be constrained based on a variety of factors, including the willingness of local leadership and the electorate to burden citizens and businesses; the availability of local funds to be dedicated or diverted to transportation issues from other competing City programs; and the availability and competitiveness of state and federal funds. Nonetheless, it is important for the City to consider all of its options and understand where its power may exist to provide and enhance funding for its Transportation programs.

The following funding sources have been used by cities to fund the capital and maintenance aspects of their transportation programs. There may be means to begin to or further utilize these sources, as described below, to address new needs identified in the Transportation System Plan.

General Fund Revenues

At the discretion of the City Council, the City can allocate General Fund revenues to pay for its Transportation program (General Fund revenues primarily include property taxes, use taxes, and any other miscellaneous taxes and fees imposed by the City). This allocation is completed as a part of the City's annual budget process, but the funding potential of this approach is constrained by competing community priorities set by the City Council. General Fund resources can fund any aspect of the program, from capital improvements to operations, maintenance, and administration. Additional revenues available from this source to fund new aspects of the Transportation program are only available to the extent that either General Fund revenues are increased or City Council directs and diverts funding from other City programs.

Voter-Approved Local Gas Tax

Several communities in Oregon have adopted local gas taxes by public vote. The taxes are paid to the city monthly by distributors of fuel. The process for presenting such a tax to voters will need to be consistent with Oregon State law as well as the laws of the City of Happy Valley. Table 10-3 summarizes the cities in Oregon that collect a local gas tax.

Table 10-3: Local Gas Taxes in Oregon

City	2004 Population	Vote Passage Date	Tax Rate
Cottage Grove	9,010	2003	3 cents/gallon
Dundee	2,900	2004	2 cents/gallon
Eugene	144,640	2003	3 cents/gallon
Sandy	6,360	2003	1 cent/gallon
Springfield	55,350	2003	3 cents/gallon
Stanfield	1,980	1999	1 cent/gallon
The Dalles	12,410	1986	3 cents/gallon
Tillamook	4,350	1982	1.5 cents/gallon
Woodburn	21,790	1989	1 cent/gallon

Source: League of Oregon Cities, Local Gas Tax Information, May 2005.

Currently, Happy Valley does not have any gas stations within the City. However, as forecasted growth occurs, especially along Sunnyside Road and 172nd Avenue, there is a potential for several gas stations to be constructed within the City and additional transportation revenue to be generated.

Street Utility Fee Revenue

A number of Oregon cities supplement their street funds with street utility fees. Local cities with adopted street utility fees include Lake Oswego, Wilsonville and Tualatin. Establishing user fees to fund applicable transportation activities and/or capital construction ensures that those who create the demand for service pay for it proportionate to their use. The street utility fees are recurring monthly or bi-monthly charges that are paid by all residential, commercial, industrial, and institutional users. The fees are charged proportionate with the amount of traffic generated, so a retail commercial user pays a higher rate than a residential user. Typically, there are provisions for reduced fees for those that can demonstrate they use less than the average rate implies, for example, a resident that does not own an automobile or truck.

From a system health perspective, forming a utility also helps to support the ongoing viability of the program by establishing a source of reliable, dedicated funding for that specific function. Fee revenues can be used to secure revenue bond debt used to finance capital construction. A street utility can be formed by Council action and does not require a public vote.

It is recommended that the City consider establishing a street utility fee in the near future to increase capital funding. Street utility fees can provide a stable source of dedicated revenue useable for transportation system operations and maintenance and/or capital construction. Rate revenues can also secure revenue bond debt if used to finance capital improvements. Street utilities can be formed by Council action, and billed through the City utility billing system.

Other Funding Sources

Urban Renewal District

An Urban Renewal District (URD) would be a tax-funded district within the City. The URD would be funded with the incremental increases in property taxes that result from construction of applicable improvements. This type of tax increment financing has been used in Oregon since 1960. Uses of the funding include, but are not limited to, transportation. It is tax-increment funded rather than fee funded and the URD could provide for renewal that includes, but is not limited to, transportation projects.

Local Improvement District Assessment Revenue

The City may set up Local Improvement Districts (LIDs) to fund specific capital improvement projects within defined geographic areas, or zones of benefit. LIDs impose assessments on properties within its boundaries. LIDs may not fund ongoing maintenance costs. They require separate accounting, and the assessments collected may only be spent on capital projects within the geographic area. Citizens representing 33% of the assessment can terminate a LID and overturn the planned projects so projects and costs of a LID must meet with broad approval of those within the boundaries of the LID.

Direct Appropriations

The City can seek direct appropriations from the State Legislature and/or U.S. Congress for transportation capital improvements. There may be projects identified in the Plan for which the City may want to pursue these special, one-time appropriations.

Special Assessments

A variety of special assessments are available in Oregon to defray costs of sidewalks, curbs, gutters, street lighting, parking and CBD or commercial zone transportation improvements. These assessments would likely fall within the Measure 50 limitations. A regional example would be the Westside LRT where the local share of funding was voter approved as an addition to property tax.

Employment Taxes

TriMet collects a tax for transit operations in the Portland region through payroll and self employment taxes. Approximately $145 million are collected annually in the Portland region for transit.

Debt Financing

While not a direct funding source, debt financing can be used to mitigate the immediate impacts of significant capital improvement projects and spread costs over the useful life of a project. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of funding major improvements, but is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future customers who will benefit from the projects. The obvious caution in relying on debt service is that a funding source must still be identified to fulfill annual repayment obligations.

Voter-Approved General Obligation Bond Proceeds: Subject to voter approval, the City can issue General Obligation (G.O.) bonds to debt finance capital improvement projects. G.O. bonds are backed by the increased taxing authority of the City, and the annual principal and interest repayment is funded through a new, voter-approved assessment on property City-wide (a property tax increase). Depending on the critical nature of any projects identified in the Transportation Plan, and the willingness of the electorate to accept increased taxation for transportation improvements, voter-approved G.O. bonds may be a feasible funding option for specific projects. Proceeds may not be used for ongoing maintenance.

Revenue Bonds: Revenue bonds are debt instruments secured by rate revenue. In order for the City to issue revenue bonds for transportation projects, it would need to identify a stable source of ongoing rate funding. Interest costs for revenue bonds are slightly higher than for general obligation bonds, due to the perceived stability offered by the "full faith and credit" of a jurisdiction.

Oregon Transportation Infrastructure Bank Loans: A statewide revolving loan fund designed to promote innovative transportation funding solutions. State support for the program is provided by the Financial Services Branch of ODOT. In general, eligible projects include highway, transit, bikeway and pedestrian access projects. Projects are rated on established criteria and recommended based on the rankings. Repayment of loans must begin within five years of project completion and must be complete within 30 years or at the end of the useful life of the project.

Next Steps

Happy Valley is currently investigating the use of a street utility fee to help fund local transportation projects. A transportation analysis of street utility fees will be conducted to determine the steps needed to establish a street utility fee, calculate potential utility fees for various land uses in the city, estimate annual revenue generation, identify priority transportation projects to be constructed and evaluate implementation of the program.

DKS *Associates*
TRANSPORTATION SOLUTIONS

DRAFT MEMORANDUM

DATE: November 25, 2008

TO: Michael Walter, City of Happy Valley

FROM: Reah Flisakowski, P.E., DKS Associates

SUBJECT: **Happy Valley Comprehensive Plan Map – 2035 Traffic Analysis**

This memorandum summarizes the traffic analysis of the draft Happy Valley Comprehensive Plan Map (dated October 9, 2008). The purpose of the analysis is to evaluate if the proposed future roadway network shown in the draft Plan Map can accommodate the proposed zoning designation included in the draft Plan Map based on a horizon year 2035 traffic analysis. The following sections present the methodology and assumptions for the analysis and summarize the findings.

Background

The City of Happy Valley is currently updating their Comprehensive Plan and Transportation System Plan (TSP). The draft East Happy Valley Comprehensive Plan Map includes new urban zoning designations and a proposed arterial/collector roadway system for the eastern portion of the city. The Plan Map focuses on the area generally bound by 145th Avenue to the west (north of Monner Road), 162nd Avenue to the west (south of Monner Road), 177th Avenue to the east, Highway 212 to the south and Clatsop Street to the north.

Land Use Assessment

The proposed urban zoning designations shown in the draft Plan Map were evaluated to estimate the future development that would likely occur. The evaluation assumed full buildout of the draft Plan Map would be complete by the year 2035. The buildable land area of each parcel was determined by removing land with environmental constraints such as creeks, wetland, and steep slopes. The resulting buildable land area was used to estimate future development based on each proposed zoning's allowable uses, assumed floor area ratios and maximum residential densities. The number of household units was estimated for residential zoning. For the remaining zoning designations, building square-footage was used to estimate the number of employees. The assumption and calculation details of the draft Plan Map land use assessment are attached.

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EXHIBIT L

There are several properties within the draft Plan Map area that have conducted, at a minimum, initial planning work which provide further guidance to estimate the future development. These properties included:

- Providence Health Services Medical Center - Rock Creek Boulevard/162nd Avenue
- Verne E. Duncan Elementary School - Rock Creek Boulevard/Parklane Loop
- Rock Creek Middle School - Rock Creek Boulevard/162nd Avenue
- 162nd Avenue Community Park - 162nd Avenue north of Rock Creek Boulevard
- Scouter's Mountain Elementary School - 172nd Avenue north of Hagen Road
- Clackamas County Fire Station - 172nd Avenue north of Hagen Road
- Arbor at Pleasant Valley Golf Course - 172nd Avenue/Troge Road

The future land use estimates for these properties were based on preliminary planning efforts or development proposals submitted to the City. The majority of these properties conducted traffic impact studies for the associated proposed project. The Providence property provided conceptual master plan employment estimates. It should be noted that the Providence future employment estimate was treated as office/industrial employees to calculate the PM peak hour model trips for the zone, which was consistent with the methodology for this analysis. The detailed trip generation estimate for the proposed hospital and medical center will be determined in the upcoming master plan analysis for the project.

The future land use estimates from the Metro 2035 travel demand model and the draft Plan Map area are shown in Table 1. When compared to the Metro land use, the draft Plan Map zoning would slightly decrease households, almost triple the number of retail/service employees and significantly increase office/industrial employees. The draft Plan Map's net percentage change in land use is shown in Table 1.

Table 1 – Study Area Land Use Summary

Land Use Source	Households	Retail/Service Employees	Office/Industrial Employees
2035 Metro	9,750	360	7,800
2035 East Happy Valley Comprehensive Plan	9,110	990	12,350
Net Change with the Plan	-10%	+275%	+60%

Future Roadway Network

The 2035 transportation analysis utilized the current Metro 2035 model[1] which includes RTP (Regional Transportation Plan) financially constrained improvement projects. The transportation projects assumed to be complete by year 2035 which would affect traffic operations in the study area are summarized in Table 2.

Table 2 – Metro 2035 Financially Constrained Transportation Projects

Project	Description
Sunrise Corridor Phase 1	Construct a four lane expressway from I-205 to the 122nd Avenue interchange
172nd Avenue	Widen to a five-lane arterial from Highway 212 to Foster Road
162nd Avenue	Construct a three-lane collector from Highway 212 to 157th Avenue
162nd Avenue	Construct a three-lane collector from Hagen Road to Clatsop Street
Sunnyside Road	Extend Sunnyside Road east from 172nd Avenue to 242nd Avenue with a new alignment
122nd/129th Avenue	Widen to three-lanes from Sunnyside Road to King Road
Mt. Scott Boulevard and King Road	Widen to three-lanes from 145th Avenue to west city limits
Clatsop Street Extension West	Extend Clatsop Street from Mt. Scott Boulevard to 132nd Avenue
Clatsop Street Extension East	Extend Clatsop Street from 162nd Avenue to 172nd Avenue
Causey Avenue Overcrossing	Construct a new three-lane collector from Bob Schumaker Road to the west over I-205

The 2035 Metro travel demand model was further refined with the addition of several transportation projects. These projects were added to ensure the transportation analysis was based on the most likely future roadway network and consistent with other transportation planning efforts in the study area. In general, the projects were local in nature without a regional benefit which is the focus of the Metro RTP. An exception is the Sunrise Corridor Phase 2 project, which was added based on guidance provided by Clackamas County staff[2].

The additional projects were taken from various transportation planning efforts such as the Damascus/Boring Concept Plan and the 172nd Avenue Improvement Project. A few projects were roadway extensions that would be necessary to connect the draft Plan Map roadway network to areas outside the Plan area. The additional transportation projects are summarized in Table 3.

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[1] 2035 Metro Regional Transportation Plan travel demand model based on the Financially Constrained project list, 2008.

[2] Email from Ron Weinman, Clackamas County, to Reah Flisakowski, DKS Associates, October 10, 2008.

Table 3 – Additional 2035 Transportation Projects

Project	Description
Sunrise Corridor Phase 2	A four lane expressway would be constructed from the 122nd Avenue interchange to the Rock Creek Junction interchange.
Draft Plan Map	The proposed arterial and collector street system as defined in the draft East Happy Valley Comprehensive Plan Map would be constructed.
Sunnyside Road Realignment	The current alignment of Sunnyside Road east of 172nd Avenue would be replaced by the Sunnyside Road Metro RTP project. The current Sunnyside Road alignment east of 172nd Avenue would be relocated to the south with a connection to 172nd Avenue at Rock Creek Court. The roadway would be improved to a three-lane collector between 172nd Avenue and Highway 212.
Rock Creek Boulevard Extension	Rock Creek Boulevard would be extended as a five-lane arterial east of 177th Avenue to Highway 212 in Damascus.
177th Avenue	177th Avenue would serve as a continuous three-lane collector from Collector A (south of Sager Road) to Collector C (south of Rock Creek Boulevard).
Misty Drive Extension	Misty Drive would extend to the east to connect 172nd Avenue to the proposed alignment of Sunnyside Road.
169th Avenue Extension	169th Avenue would extend to the east to connect 172nd Avenue to Foster Road.
Troge Road Extension	Troge Road would extend to the east to connect 172nd Avenue to Foster Road.
Scouter's Mountain Road Extension	Scouter's Mountain Road would extend to the east to connect 172nd Avenue to Foster Road.
Hemrick Road Extension	Hemrick Road would extend to the east to connect 172nd Avenue to Foster Road.
Collector B Extension	Collector B (north of Hemrick Road) would extend to the east to connect 172nd Avenue to Foster Road.
Collector A Extension	Collector A (south of Sager Road) would extend to the east to connect 172nd Avenue to Foster Road.
Sager Road Extension	Sager Road would extend to the east to connect 172nd Avenue to Foster Road.
Clatsop Road Extension	Clatsop Road would extend to the east to connect 172nd Avenue to Foster Road opposite Cheldelin Road
Access Management	The Rock Creek Boulevard corridor (Sunrise Corridor to Highway 212) and 172nd Avenue corridor (Highway 212 to Foster Road) would be constructed with access management elements such as raised center medians. All future development along these corridors would be allowed access to the adjacent arterial and/or collector roadways only. No mid-block driveways were assumed between future signalized intersections on these corridors.

Figure 1 shows the future intersection geometries and controls that were assumed for the 2035 operations analysis. These assumptions were based on recent transportation planning efforts when available. The draft Happy Valley TSP provided guidance for the location of future traffic signals and roadway cross-sections. The planned 172nd Avenue improvements (Sunnyside Road to Highway 212) provided planned intersection geometry and control. However, the 172nd Avenue/Highway 212 intersection was evaluated with additional turn lanes to accommodate long-term traffic needs. The planned improvements for the 172nd Avenue/Highway 212 intersection were intended to serve as an interim project until the Sunrise Corridor was constructed east of the Rock Creek Junction. This analysis assumes the Sunrise Corridor terminates at the Rock Creek Junction in the year 2035, therefore additional capacity on Highway 212 at 172nd Avenue would be required.

The majority of the study intersections were assumed to be controlled by a traffic signal in the future. The two exceptions include:

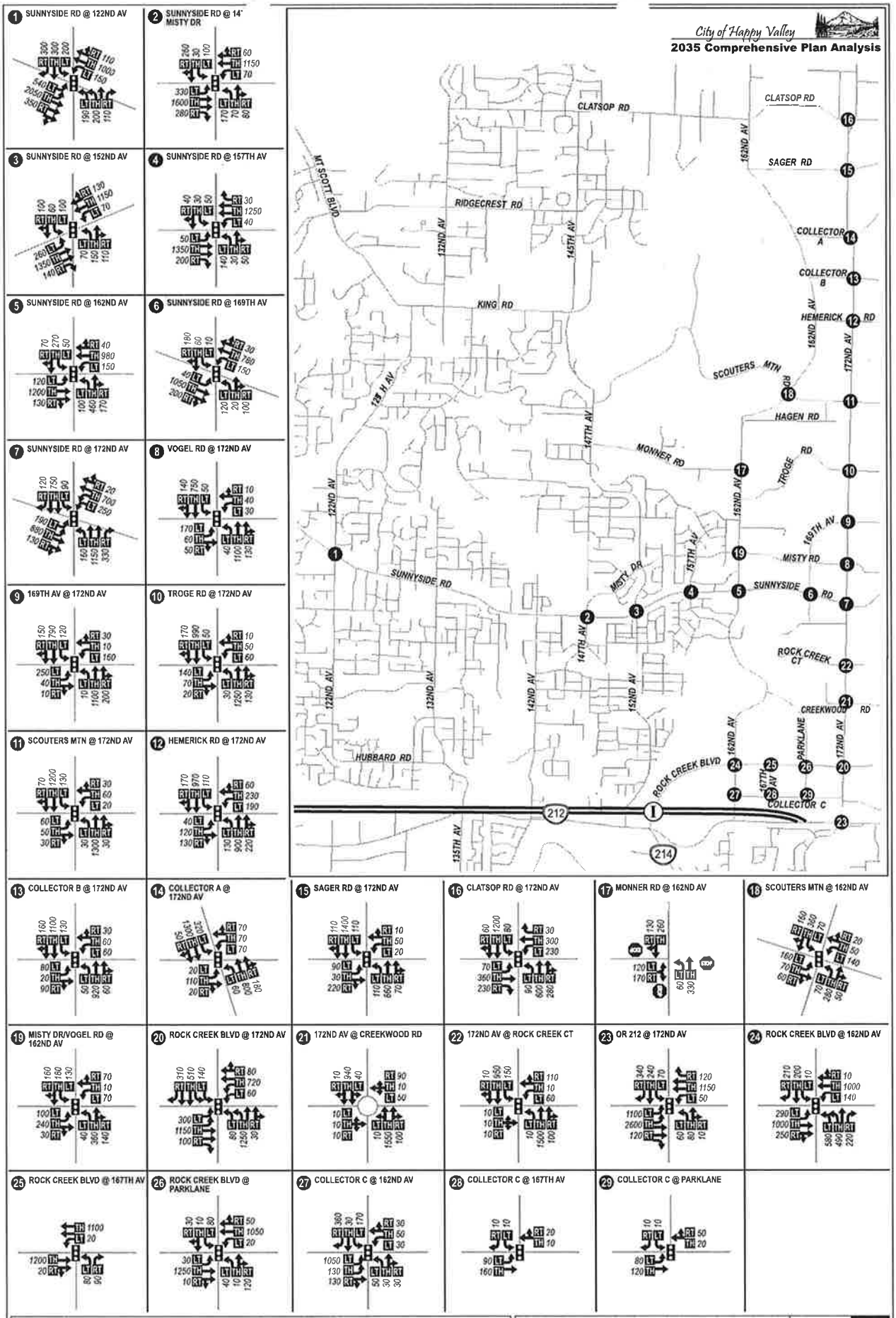
- The construction of a roundabout is planned for the 172nd Avenue/Creekwood Road intersection.
- The 162nd Avenue/Monner Road intersection was assumed to operate with all-way stop sign control.

Although traffic signal control was assumed in the future for the majority of the study intersections, roundabout control may be a viable alternative. Additional detailed analysis would be needed at each of the study intersections to determine the proper intersection control.

Future Volume Forecast

The Metro 2005 base model and the adjusted Metro 2035 model were evaluated to estimate 30 years of traffic growth in the study area. The 30 year traffic growth increment was applied to the baseline traffic counts (2005 and 2006 data) to represent post-processed 2035 traffic volumes at the study intersections. Several study intersections include roadways that do not exist today. The 2035 raw model volume data at these locations was approximated based on post-processed 2035 link volumes and buildout of the adjacent proposed land uses.

Figure 1 shows the 2035 forecasted traffic volumes at the study intersections. These forecasted volumes are based on the buildout of the draft Happy Valley Comprehensive Plan Map and the assumed roadway network described in the preceding section.


City of Happy Valley
2035 Comprehensive Plan Analysis
1 SUNNYSIDE RD @ 122ND AV
2 SUNNYSIDE RD @ 147TH AV MISTY DR
3 SUNNYSIDE RD @ 152ND AV
4 SUNNYSIDE RD @ 157TH AV
5 SUNNYSIDE RD @ 162ND AV
6 SUNNYSIDE RD @ 169TH AV
7 SUNNYSIDE RD @ 172ND AV
8 VOGEL RD @ 172ND AV
9 169TH AV @ 172ND AV
10 TROGE RD @ 172ND AV
11 SCOUTERS MTN @ 172ND AV
12 HEMERICK RD @ 172ND AV
13 COLLECTOR B @ 172ND AV
14 COLLECTOR A @ 172ND AV
15 SAGER RD @ 172ND AV
16 CLATSOP RD @ 172ND AV
17 MONNER RD @ 162ND AV
18 SCOUTERS MTN @ 162ND AV
19 MISTY DR/VOGEL RD @ 162ND AV
20 ROCK CREEK BLVD @ 172ND AV
21 172ND AV @ CREEKWOOD RD
22 172ND AV @ ROCK CREEK CT
23 OR 212 @ 172ND AV
24 ROCK CREEK BLVD @ 162ND AV
25 ROCK CREEK BLVD @ 167TH AV
26 ROCK CREEK BLVD @ PARKLANE
27 COLLECTOR C @ 162ND AV
28 COLLECTOR C @ 167TH AV
29 COLLECTOR C @ PARKLANE
CLATSOP RD
SAGER RD
RIDGECREST RD
KING RD
HAGEN RD
MONNER RD
SUNNYSIDE RD
MISTY DR
ROCK CREEK CT
CREEKWOOD RD
HUBBARD RD
ROCK CREEK BLVD
COLLECTOR C
MT SCOTT BLVD
SCOUTERS MTN
HEMERICK RD
TROGE RD
MISTY RD
PARKLANE
122ND AV
132ND AV
135TH AV
142ND AV
147TH AV
152ND AV
157TH AV
162ND AV
167TH AV
169TH AV
172ND AV
LEGEND
- Study Intersection
- Lane Configuration
00 - PM Peak Hour Traffic Volume
LT TH RT - Volume Turn Movement
Left-Thru-Right
- Stop Sign
- Traffic Signal
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NO SCALE
Figure 1
2035 TRAFFIC VOLUMES
PM PEAK HOUR

Future Operating Conditions

The 2035 traffic performance was evaluated for the PM peak hour at the study intersections with the buildout of the proposed zoning in the draft Comprehensive Plan Map. The future analysis assumed the roadway network and intersection configurations and control shown in Figure 1. The future intersection performance is summarized in Table 2. For signalized, all way stop and roundabout control, the delay reported represents the average delay for the intersection

Table 2 - 2035 Study Intersection Level of Service (PM Peak Hour)

Intersection	Level of Service	Delay	Volume/ Capacity
Signalized Control			
Sunnyside Road/122nd Avenue	D	45.4	0.92
Sunnyside Road/147th Avenue	C	35.1	0.87
Sunnyside Road/152nd Avenue	D	36.6	0.86
Sunnyside Road/157th Avenue	B	15.3	0.57
Sunnyside Road/162nd Avenue	D	55.5	0.98
Sunnyside Road/169th Avenue	C	22.4	0.69
Sunnyside Road/172nd Avenue	D	42.9	0.86
172nd Avenue/Misty Drive Extension	B	17.4	0.61
172nd Avenue/169th Avenue	C	20.6	0.71
172nd Avenue/Troge Road	B	13.8	0.59
172nd Avenue/Scouter Mountain Road	B	12.7	0.58
172nd Avenue/Hemrick Road	C	26.4	0.71
172nd Avenue/Collector B (south of Sager Road)	B	15.3	0.52
172nd Avenue/Collector A (north of Hemrick Road)	B	20.0	0.62
172nd Avenue/Sager Road	C	21.9	0.74
172nd Avenue/Clatsop Road	C	28.7	0.82
162nd Avenue/Scouter Mountain Road	B	10.6	0.48
162nd Avenue/Misty Drive Extension	B	10.9	0.50
172nd Avenue/Rock Creek Court	B	14.0	0.70
172nd Avenue/Rock Creek Boulevard	D	39.7	0.89
172nd Avenue/Highway 212	D	53.7	1.06
162nd Avenue/Rock Creek Boulevard	D	47.9	0.86
167th Avenue/Rock Creek Boulevard	A	7.6	0.45
Parklane Loop/Rock Creek Lane	B	13.2	0.51
162nd Avenue/Collector C	B	11.6	0.59
167th Avenue/Collector C	A	3.5	0.11
Parklane Loop/Collector C	A	3.4	0.08
Roundabout Control			
172nd Avenue/Creekwood Road	C	33.6	1.0
All Way Stop Control			
162nd Avenue/Monner Road	B	13.9	0.58

All of the study intersections would perform with acceptable operations during the PM peak hour with the exception of the 172nd Avenue/Highway 212 intersection which would be over capacity (volume to capacity ratio greater than 1.0). The substandard performance of the 172nd Avenue/Highway 212 intersection would continue beyond the year 2035 until the construction of the Sunrise Corridor east of the Rock Creek Junction.

Key Findings

- The proposed future roadway network shown in the draft Plan Map would provide adequate capacity and circulation for the proposed zoning designation included in the draft Plan Map based on a horizon year 2035 transportation analysis.
- Traffic volumes on roadways located outside the draft Plan Map area would be relatively unaffected from the proposed zoning.
- The 162nd Avenue extension south of Sunnyside Road would carry approximately 13,000 vehicles per day. This roadway connection would be necessary to serve local/neighborhood vehicle trips and preserve capacity on 172nd Avenue.
- The 177th Avenue roadway connection from Clatsop Street to Rock Creek Boulevard would carry approximately 4,000 to 11,000 vehicles per day. 177th Avenue would provide a significant benefit to the future performance of 172nd Avenue by providing a parallel collector route to the east for local/neighborhood vehicle trips.
- Scouter's Mountain Road would require two connections to the arterial roadway system (at 145th Avenue north of Monner Road and 172nd Avenue north of Hagen Road) to provide adequate access to future development on Scouter's Mountain and limit the growth of traffic on Monner Road.
- The extension of Rock Creek Boulevard as a five lane arterial east of 172nd Avenue to Highway 212 in Damascus would significantly reduce the traffic demands on 172nd Avenue between Rock Creek Boulevard and Highway 212.
- Monner Road would serve as a collector roadway in the draft Plan Map transportation network. Due to the constrained topography of Scouter's Mountian, there would be a lack of east-west collectors between 145th Avenue/152nd Avenue and 172nd Avenue which would require Monner Road to serve as a collector roadway. This change in functional classification for Monner Road should be considered for the Happy Valley TSP.

Please contact me if you have any questions.

DKS *Associates*
TRANSPORTATION SOLUTIONS

DRAFT MEMORANDUM

DATE: October 23, 2008

TO: Michael Walter, City of Happy Valley

FROM: Reah Flisakowski, P.E., DKS Associates

SUBJECT: **Scouter's Mountain Roadway Phasing Plan**

This memorandum summarizes the planned roadway phasing to serve future development in the Scouter's Mountain area of Happy Valley, Oregon. The plan lays out the steps for providing vehicle access to existing residences and new development on Scouter's Mountain. The plan is based on the proposed roadway network shown on the draft East Happy Valley Comprehensive Plan Map (dated October 9, 2008).

The roadway phasing plan is based on the likely pattern of new development for the area and assumes properties located in the northern portion of Scouter's Mountain near Vrandenburg Road and the Jackson Hills subdivision would develop before the remainder of the area. If new development was proposed for a different area of Scouter's Mountain first then the roadway phasing plan would require an update.

Phase 1 – Vradenburg Road

In this phase, Vradenburg Road would be utilized as the primary public roadway to access the northern portion of Scouter's Mountain. Vradenburg Road is classified as a local street. Based on recent traffic count data, Vradenburg Road serves approximately 300 vehicles per day west of 162nd Avenue. The current condition of Vradenburg Road was evaluated to estimate the number of additional vehicles per day that could be accommodated on Vradenburg Road with a specific consideration for safety. A recent field inspection of Vradenburg Road found the roadway does not meet current street design standards. The paved roadway width ranges from 18 feet to 20 feet. Large sections of the roadway edge have deteriorated with major pavement cracking. There are several tight curves along the northern portion of the roadway. The roadway does not have curbs or sidewalks.

To ensure the existing driving conditions on Vradenburg Road are not degraded, a development cap should be placed on properties dependent on Vradenburg Road for vehicle access. The Happy Valley Transportation System Plan[1] recommends a maximum of 1,000 vehicles per day on a local street. However, the substandard conditions on Vradenburg Road could accommodate a total of approximately 500 vehicles per day. Therefore, approximately 200 additional vehicles per day could be accommodated before safety conditions would be compromised. These additional daily trips represent the development of 20 additional residential units on Scouter's Mountain. This development cap of 20 residential units accessing Vradenburg Road would remain until an acceptable replacement for Vradenburg Road could be provided.

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[1] Happy Valley Transportation System Plan – Final Draft, Table 1, DKS Associates, June 30, 2007.

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EXHIBIT M

Phase 2 – Jackson Hills Connection

When the property adjacent and to the east of Jackson Hills subdivision develops, Nicholas Drive will be extended to the east. Nicholas Drive is classified as a local street and currently serves approximately 350 vehicles per day. This roadway extension would provide a second vehicle access to the northern portion of Scouter's Mountain. The future extension of Spanish Bay Drive has been restricted because the property to the east has recently been designated Metro open space.

To limit the potential for future traffic impacts to the Jackson Hills subdivision from new development to the east, a development cap should be placed on properties dependent on the Nicholas Drive extension for vehicle access. Recent traffic count data found the highest traffic volumes within the Jackson Hills subdivision are on Denali Drive (east of 145th Avenue) with 782 vehicles per day. This location was used as the control point for the development cap estimate.

Based on the TSP recommended maximum local street volume of 1,000 vehicles per day, it was determined that Denali Drive could accommodate 218 additional vehicles per day. The traffic count data found Denali Drive served approximately 44% of the vehicles entering and exiting the Jackson Hills subdivision. Therefore, approximately 44% of traffic generated by new development to the east would use Denali Drive. If Denali Drive can accommodate 218 additional vehicle per day than new development to the east can generate approximately 495 trips per day. These additional daily trips represent the development of 50 residential units on Scouter's Mountain. The traffic volume estimates for select roadways within the Jackson Hills subdivision with the build-out of the development cap are summarized in Table 1.

Table 1 – Estimated Average Daily Traffic Volume with Development Cap

Access Point	Average Daily Traffic Volume[1]	Jackson Hills Subdivision Access Percentage[2]	Estimated Additional Trips from 50 Unit Cap	Estimated Average Daily Traffic Volume with 50 Unit Cap
Pebble Beach Drive East of 145th Avenue	472	27%	133	605
Jackson Hills Drive East of 145th Avenue	524	29%	143	667
Denali Drive East of 145 Avenue	782	44%	218	1,000
		100%	495	

[1] Based on October 2008 traffic count data.
[2] The percentage of daily traffic volume that occurs at that access to the Jackson Hills subdivision.

This development cap of 50 residential units accessing Nicholas Drive would remain until an additional access to Scouter's Mountain beyond the Nicholas Drive extension and Vradenburg Road was provided.

Phase 3 – First East-West Collector Connection

An east-west collector roadway is planned to provide vehicle access to the central and southern portions of Scouter's Mountain. The proposed east-west collector roadway would connect 147th Avenue (north of Alta Vista Drive) and 172nd Avenue (north of Hagen Road). It is possible that the east-west collector would connect to either 147th Avenue or 172nd Avenue first. This phase would apply if either the 147th Avenue or 172nd Avenue collector connection to Scouter's Mountain was provided. It is assumed that the east-west collector roadway would be either two lanes or three lanes wide (per the standards of the Happy Valley Transportation System Plan) and that direct access to single family dwelling units would not be allowed.

When the proposed east-west collector roadway provides a connection from Vradenburg Road to either 147th Avenue or 172nd Avenue, the following action would occur.

- Vradenburg Road within the Metro designated open space area would be closed to motor vehicle traffic. The primary use of the roadway would be for pedestrian and bicycle use. Emergency vehicles would likely be allowed to utilize Vradenburg Road to reach Scouter's Mountain with the placement of gates at the north end (west leg of the 162nd Avenue/Sager Road intersection) and the south end (Metro open space boundary) of Vradenburg Road.

In this phase, the new east-west collector roadway connection to either 147th Avenue or 172nd Avenue would serve as the primary vehicle access to development on Scouter's Mountain. The Nicholas Drive extension would provide secondary access to properties located on the northwest portion of Scouter's Mountain. The Vradenburg Road connection to the north to 162nd Avenue and Sager Road would be closed to motor vehicles. It is assumed that the majority of vehicles previously using Vradenburg Road to the north would divert their trip to the proposed east-west collector roadway with a connection to either 147th Avenue or 172nd Avenue.

To limit potential future traffic impacts to the Scouter's Mountain roadway network, a development cap should be placed on properties dependent on the east-west collector and the Nicholas Drive extension. Based on preferred daily traffic volumes on collector and local roadways, a development cap of 550 residential units should be applied to properties dependent on the first east-west collector connection (to either 147th Avenue or 172nd Avenue) and Nicholas Drive for access. This development cap would remain until the second east-west collector connection (to either 147th Avenue or 172nd Avenue) was provided.

Phase 4 – Second East-West Collector Connection

This phase would require the planned east-west collector roadway to make a complete connection between 147th Avenue, 172nd Avenue and Vradenburg Road. When the proposed Scouter's Mountain collector roadway network is provided, the development cap could be lifted. However, development within the Scouter's Mountain area would still be restricted based on City of Happy Valley zoning limitations.

In this phase, the proposed east-west collector roadway between 147th Avenue and 172nd Avenue would serve as the primary vehicle access to development on Scouter's Mountain. The roadway connection through the Jackson Hills subdivision would be secondary and typically serve development located in the northwestern portion of Scouter's Mountain.

Please contact me if you have any questions.

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Memorandum

17355 SW Boones Ferry Rd.
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Phone (503) 635-3618
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To: Michael Walter, City of Happy Valley

From: Warren Greaser, Otak

Copies: Joe Dills, AICP, Otak

Date: December 9, 2008

Subject: East Happy Valley Buildable Lands and Residential Capacity Analysis

Project No.: 13812

Summary

This memorandum provides an analysis of buildable lands and residential capacities within the East Happy Valley planning area. Metro's Urban Growth Management Functional Plan (UGMFP), section 3.07.1120(C) requires that new urban areas include the "provision for average residential densities of at least 10 dwelling units per net developable residential acre or such other densities that the Council specifies pursuant to section 3.01.040 of the Urban Growth Management Functional Plan." Happy Valley's requirement is 9.1 dwelling units per net residential acre because the area was part of the intergovernmental Damascus/Boring Concept Plan process. The Concept Plan's Technical Appendix provides an analysis buildable lands and density capacities – an average net residential density of 9.1 dwelling units per acre for the East Happy Valley portion of the recommended concept plan is cited (*Appendix to the Report on the Damascus/Boring Concept Plan*, 2006, pg. 312).

Utilizing the methodology as described below, the following estimates are derived for the East Happy Valley planning area:

Net buildable residential acres:	513.65 acres
Dwelling units:	4717 dwellings
Net residential density:	9.18 dwelling units per net residential acre
Net buildable employment acres:	259.10 acres

The analysis is based on the East Happy Valley Comprehensive Plan Map as of November 24, 2008 (attached) and Draft Happy Valley Development Code Amendments as of December 9, 2008. The remainder of this memorandum provides the methodology for the estimation of buildable land and residential dwelling unit capacity. Included in the methodology is a list of land use districts and summary of resource overlay districts that apply in the East Happy Valley planning area, an

EXHIBIT N

explanation of assumptions for determining buildable land and residential capacity, and the GIS procedures used to carry out each phase of the analysis.

Methodology

Land Use Districts

Employment Districts

- Community Commercial Center (CCC)
- Mixed Commercial Center (MCC)
- Employment Center (EC)
- Industrial Campus (IC)

Residential Districts

- Residential 20,000 Square Feet (R-20)
- Residential 15,000 Square Feet (R-15)
- Residential 10,000 Square Feet (R-10)
- Residential 7,000 Square Feet (R-7)
- Residential 5,000 Square Feet (R-5)
- Single Family Attached (SFA)
- Mixed Use Residential – Single Family (MUR-S)
- Mixed Use Residential – Multi-family (MUR-M2)

Resource Overlays

Development code chapters 16.32 (Steep Slopes Development Overlay) and 16.34 (Natural Resources Overlay Zone) provide additional regulations intended to preserve steep slopes and natural resources. The intent of these regulations is to balance conservation and development by clustering development on lands unconstrained by steep slopes or natural resources. To do this, the overlays define constrained, partially constrained, and unconstrained land. The lands designated as constrained are not buildable; a density of two units/acre is applied to them for density transfer to buildable areas. The overlays establish the amount of partially constrained land that can be developed. Partially constrained land is also assigned a density of two units/acre. Buildable portions of partially constrained land may be developed at two units/acre and density may be transferred from unbuildable portions to buildable portions of the site or adjacent properties. Unconstrained lands develop at the prescribed densities of the residential land use district. Unconstrained land and buildable partially constrained land may receive transfers from constrained land, unbuildable partially constrained land, and/or adjacent properties. With the use of density transfers pursuant to Section 16.63.020(F)(2), unconstrained land may not exceed 175 percent of the

maximum density of the applicable underlying land use district and buildable partially constrained land may not exceed 175 percent of 2 units/acre (3.5 units/acre).

Determining Buildable Land

The East Happy Valley Comprehensive Plan area is approximately 2,118 acres. For the buildable land analysis, vacant and redevelopable land was identified. Vacant land was identified using Metro data from 2005 and 2007 and aerial data. Redevelopable land was created using Metro building improvement data. For land in residential and industrial districts, any parcel with an improvement valued at less than $300,000 is considered redevelopable. Additionally, all land in commercially zoned districts (Community Commercial Center and Mixed Commercial Center) was deemed redevelopable. Land designated Institutional and Public Use (IPU) was not included in this analysis.

Land Categories

To account for the resource overlays, the vacant and redevelopable land was categorized as constrained, partially constrained, or unconstrained land for the purposes of this analysis as follows:

Constrained Land

- Conservation Slope Area
  - Slopes 25 percent and greater (for designation as conservation slope area, the minimum contiguous extent for slopes 25 percent and greater shall be 1,000 square feet).
  - Potentially Hazardous Analysis Areas (lands within 25 feet of the top or toe of slopes 25 percent and greater).
  - Areas containing potentially rapidly moving landslide hazard areas mapped by the Oregon Department of Geology and Mineral Industries (DOGAMI)
- Water Quality Resource Area, as defined in Section 16.34.060.
- High and Moderate Value Habitat Conservation Areas, as defined in 16.34.020.D2.*
- Major Utility Corridors**

Partially Constrained Land

- Transition Slope Area
  - Slopes 15 to 24.99 percent (for designation as transition slope area, the minimum contiguous extent for slopes 15 to 24.99 percent shall be 1,000 square feet and the land must not be otherwise designated as a conservation slope area)
  - The percentage of the Transition Slope Area that is buildable based on the sliding scale below.

% of the parcel that is constrained or partially constrained	% of Transition Slope Area that is buildable
0 to 19.99%,	30%
20 to 49.99%	40%
50%	50%

Unconstrained Land

- Any land not designated as Constrained Land or Partially Constrained Land.

  * Metro's UGMFP Title 13 Habitat Conservation Areas (HCAs) protect additional land around a protected water feature and are treated as partially constrained land. For each of the three HCA land designations (low, moderate, and high) a different maximum portion of the HCA may be developed as follows:

    - Low: 50 percent of the HCA
    - Moderate: 15 percent of the HCA
    - High: 10 percent of the HCA

    Although HCAs are partially constrained land, this analysis treats the moderate and high HCAs as constrained land and the low HCAs as unconstrained.

  ** Major Utility Corridors behave as constrained land for the designation of buildable land. However, although these lands are not buildable, for the transfer of units, the otherwise unconstrained land within a major utility corridor is calculated at the underlying development district.

As shown in Table 1 below, vacant and redevelopable land comprises 1,757 acres in East Happy Valley. The remaining 362 acres within the plan area are designated committed lands. These lands include parcels or portions of parcels that are neither vacant nor redevelopable, lands designated IPU, current rights-of-way, and lands removed for planned arterial and collector rights-of-way. Of the 1,757 acres, 742 are constrained, 130 are partially constrained, and 884 are unconstrained. Tables 2 and 3 display vacant and redevelopable land for employment and residential land.

Table 1: East Happy Valley Vacant and Redevelopable Land

Land Category	Gross Acres
Committed	362.03
Vacant or Redevelopable	1,756.56
Constrained	741.87
Partially Constrained	130.41
Unconstrained	884.28
East Happy Valley	2,118.59

Table 2: Gross Employment Vacant and Redevelopable Land

Employment Land	Gross Acres
Constrained	139.30
Partially Constrained	8.33
Unconstrained	313.70
Vacant or Redevelopable	461.33

Table 3: Gross Residential Vacant and Redevelopable Land

Residential Land	Gross Acres
Constrained	602.57
Partially Constrained	122.08
Unconstrained	570.58
Vacant or Redevelopable	1,295.23

Buildable Land Transportation Assumptions

The following transportation assumptions were used to establish buildable land:

1. Planned arterials and collectors were previously removed from all vacant and redevelopable land.
2. For commercial land, an additional 15 percent of unconstrained land was removed for local rights-of-way.
3. For residential land, an additional 20 percent of unconstrained land was removed for local rights-of-way.
4. No additional land is removed from buildable transition slope areas for local rights-of-way.

Tables 4 and 5 show the removal of land for rights-of-way and net buildable land for employment and residential land. In the tables, the buildable transition slope area has already been calculated from gross transition slope land according to the sliding scale. Tables 6 and 7 display net buildable land by employment and residential land use districts.

Table 4: Net Buildable Employment Land

Buildable Employment Land		Acres
Gross Unconstrained Land		313.70
Less local ROW (18.5%)	-	58.03
Net Unconstrained Land		255.67
Buildable Transition Slope Area	+	3.43
Net Buildable Land		259.10

Table 5: Net Buildable Residential Land

Buildable Residential Land		Acres
Gross Unconstrained Land		570.58
Less local ROW (20%)	-	114.12
Net Unconstrained Land		456.46
Buildable Transition Slope Area	+	57.19
Net Buildable Land		513.65

Table 6: Net Buildable Employment Lands by Comprehensive Plan District

Zone	Net Unconstrained Acres	Buildable Transition Slope Area	Total Net Buildable Acres
CCC	15.06	0.11	15.17
MCC	20.54	0.08	20.62
EC	109.23	0.59	109.82
IC	110.83	2.65	113.48
Total	255.67	3.43	259.10

Table 7: Net Buildable Residential Lands by Comprehensive Plan District

Zone	Net Unconstrained Acres	Buildable Transition Slope Area	Total Net Buildable Acres
R20	38.39	41.39	79.78
R15	81.94	3.38	85.32
R10	127.32	6.97	134.29
R7	41.77	2.15	43.92
R5	60.77	1.29	62.06
SFA	44.49	1.22	45.71
MURS	11.81	0	11.81
MURM2	49.98	0.79	50.77
Total	456.46	57.19	513.65

Determining Residential Capacity

In order to estimate the residential capacity of the East Happy Valley Comprehensive Plan Area several assumptions and simplifications must be made. This is due to the complicated calculation of developable residential units for a parcel of land that is ultimately dependent upon site specific conditions and analysis. Table 8 summarizes residential capacity and average net density for the East Happy Valley Comprehensive Plan. Table 9 provides the data calculation for each assumption. The assumptions are listed below:

1. The analysis assumes that net unconstrained land will develop at the maximum density of the applicable residential land use district as follows:

Residential District	Density*
Residential 20,000 SF (R-20)	2.18
Residential 15,000 SF (R-15)	2.90
Residential 10,000 SF (R-10)	4.36
Residential 7,000 SF (R-7)	6.22
Residential 5,000 SF (R-5)	8.71
Single Family Attached (SFA)	15.00
Mixed Use Residential - Single Family (MUR-S)	15.00
Mixed Use Multi-family (MUR-M2)	34.00

* Density in dwelling units per acre

2. The analysis assumes that buildable portions of the transition slope area will reach maximum density at the two units/acre base density.
3. Properties completely encumbered by constrained land will produce 1 unit/parcel as all lots of record are allowed at least one unit.
4. The analysis also assumes that one half of all properties in residential districts R15 and R20 will receive full density transfers. These properties will receive density transfers from constrained and partially constrained land to reach 175 percent of the zoned maximum density on unconstrained land and the buildable portions of partially constrained land allowed by the overlay zones. R15 is concentrated on the flat top of Scouter's Mountain and R20 is generally restricted to the steep sides of the mountain. Much of the R20 lands are either constrained or partially constrained land. Thus, the density from the slopes will shift to the top of the mountain.
5. After accounting for the transfer in R15 and R20, the analysis assumes twenty percent of the remaining transferable units generated by constrained and partially constrained land will be built.

Table 8: Residential Capacity and Average Net Density

Source of Residential Units	Units
Net Unconstrained	4,209
Buildable TSA	114
100% Constrained	23
R15 and R20 Transfers	120
Remaining Transfers at 20%	251
Total	4,717
Total Number of Units	4,717
Net Buildable Land Acres	514
Average Net Density	9.18

GIS Methodology and Procedures

Step 1. Create Vacant Land

1. The previous buildable lands analyses used Metro 2005 vacant land data rubbersheeted to 2006 taxlots. This was necessary because the Metro 2005 vacant land data had been registered to the 2004 taxlots, which in 2006 shifted between 30 and 150 feet in the southern half of the EHV study area. This process resulted in the shapefile: **vacant_land_2007_adjusted.** For this analysis, the vacant_land_2007_adjusted shapefile was further edited to reflect some of the changes incorporated in the Metro 2007 vacant land data update.

   a. Add "Vacant" field to this shapefile and assigned all records a value of "Yes."
   b. Note: From here on, all vacant land is assumed to be adjusted and the "adjusted" portion of the shapefile name is excluded.

2. Intersect "vacant_land_2007_adjusted" and "taxlots" and call this shapefile **vacant_land_taxlots**. Then delete parcels with Vacant not equal to "Yes".

3. Intersect "vacant_land_taxlots" and "zoning" and call this shapefile **Vacant_land_tl_zoning.**

Step 2. Create Redevelopable Land

The goal of this step is to assign non-vacant land as "Redevelopable" based on certain criteria. In this section, a "parcel" refers to either an entire taxlot (if the entire taxlot is non-vacant) or the non-vacant portion of a taxlot. Land that was determined to be vacant above cannot then be determined to be redevelopable.

The criteria used in this analysis are as follows:
1. For residential parcels or industrial parcels (zoning = residential, RSIA or EC), if the building value is < $300,000, that land is redevelopable.
2. For commercial parcels (zoning = CC or MCC), all land is redevelopable.
3. For institutional parcels (zoning = IPU), no land is redevelopable.

Steps:
1. Create inverse of "vacant_land_taxlots" (this is land that is not vacant). To create this, union "taxlots_mp" and "vacant_land_taxlots" and call the resultant shapefile **vacant_land_not_tl**, then remove all parcels with "Vacant" = "Yes". Assign a value of "No" to all resulting records.
2. Intersect "vacant_land_not_tl" with "zoning" to add zoning information. Call it **redevelopable**. Add a 5-character text field called "Redevel" and assign to "No" for all records. This is the default value which will be modified in the next step.

3. From the redevelopable file, assign records to have "Redevel" = "Yes" based on the following criteria (Note: used predefined ArcGIS expressions instead of typing in this data):

    a. Select records that have zoning = residential (MUR-M2, MUR-S, SFA, R5, R7, R10, R15, or R20) or zoning = industrial (EC, IC). From these records, select the records that have BLDGVAL < 300,000. Assign these records "Redevel" = "Yes." Then clear the selection.
    b. Select records that have zoning = commercial (CCC, MCC). For these records, assign "Redevel" = "Yes" (i.e., all commercial land). Then clear the selection.
    c. Note: Do not change the "Redevel" status from "No" for any IPU land, since none of this land is redevelopable.

4. Delete all records that are not redevelopable (have "Redevel" = "No"). Then calculate polygon area and delete slivers (polygons < 100 sq. feet).

To combine Vacant and Redevelopable land, do the following:

a. Union "vacant_land_tl_zoning" (created above) with "redevelopable" and call this shapefile **redevelopable_or_vacant**.
b. Add a field "VacRedev" and populate with either "Vacant" or "Redevelopable". Delete slivers.

Step 3. Create Constrained Land and Transition Slope Area

1. Add all layers (describe them) and union them. The constraints include:
    - Slopes greater than 25%
    - Potentially Hazardous Analysis Areas (25 foot buffer surrounding Slopes greater than 25%)
    - Habitat Conservation Areas - High and Moderate
    - Water Quality Areas
    - Major Utility Corridor - Natural gas easements (buffers)
    - Major Utility Corridor - Power line easements (buffers)

    Union all constraints and call the resultant shapefile **constraints**.

2. Create Transition Slope Area
    - Find slopes 15 to 24.99% with extents greater than 1,000 square feet and call this shapefile "transition_slope_area." Add a text field called transition and populate with "Transition Slope Area."
    - Union "transition_slope_area" with "constraints" and call the shapefile **transition_without_constraints**.

Step 4. Create Buildable Lands

1. Union "constraints" and "transition_without_constraints" and call this shapefile **constraints_transition** and add a text field called "Const_TSA" and populate with "Constrained and TSA."

2. Remove "rights-of-way" (arterials and collectors) from "redevelopable_or_vacant" and call this shapefile **redevelopable_or_vacant_without_ROW**.

3. Union "redevelopable_or_vacant_without_ROW" with "constraints_transition" and call this shapefile **buildable_land**. Calculate acreage. Then delete all parcels that have "Const_TSA" equal to "Constrained and TSA."

4. Intersect "buildable_land" with "zoning" and call this shapefile **buildable_land_dissolve_int_zoning** and calculate acres.

5. Open **buildable_land_dissolve_tlotid_int_zoning.dbf** and create pivot table to add to calculation. From this step:
   - Unconstrained residential acres by zone
   - Unconstrained employment acres by zone

Step 5. Determine Buildable and Unbuildable Transition Slope Area

1. Intersect "constrained_transition" with "redevelopable_or_vacant_without_ROW" and call this shapefile "redevelopable_or_vacant_int_const_trans."

2. Add a field called "C_T_Acre" and calculate acres.

3. Add a field called "Per_C_T" and calculate the field equal to "C_T_Acre" / "TlotAcres."

4. Add a field called "Per_B_T" and calculate the field based on the sliding scale where:

Field Per_C_T	Field Per_B_T
0 to 19.99%,	30%
20 to 49.99%	40%
≥ 50%	50%

5. Intersect "redevelopable_or_vacant_int_const_trans" with "transition" and call this shapefile **buildable_TSA**.

6. Intersect "buildable_TSA" with "zoning" and call this shapefile **buildable_TSA_int_zoning**.

7. Add a field called "Trans_Acre" and calculate acres.

8. Add a field called "Build_TSA" and calculate the field equal to "Per_B_T" * "Trans_Acre."

9. Open **buildable_TSA_int_zoning.dbf** and create pivot table to add to calculation. From this data:
   - Buildable TSA – find total acreage, multiply 2 units/acre
   - Unbuildable TSA – subtract Buildable TSA acres from Total TSA acres
   - Number of properties completely constrained (1 unit per property)

Step 6. Determine Constrained Transferable Units

1. Intersect "constraints" with "redevelopable_or_vacant_without_ROW" and call this shapefile **constrained_redevelopable_or_vacant**.

2. Intersect "constrained_redevelopable_or_vacant" with "zoning" and call this shapefile **constrained_int_zoning**.

3. Add a field called "ConstAcre" and calculate acreage.

4. Open **constrained_int_zoning.dbf** and create pivot table to add to calculation. From this data:
   - Find total acreage and add Unbuildable TSA acres from Step 5
   - Multiply the result of the previous step by 2 units/acre

Step 7. Determine Unconstrained Transferable Units from Major Utility Corridors

Create Constrained Land and Transition Slope Area

1. Create constrained land and transition land without major utility corridors. The constraints include:
   - Slopes greater than 25%
   - Potentially Hazardous Analysis Areas (25 foot buffer surrounding Slopes greater than 25%)
   - Habitat Conservation Areas - High and Moderate
   - Water Quality Areas

   Union all constraints and call the resultant shapefile **constraints_without_MUC**

2. Create Transition Slope Area

- Find slopes 15 to 24.99% with extents greater than 1,000 square feet and call this shapefile **transition_slope_area** add a text field called transition and populate with "Transition Slope Area."

3. Union "constraints_without_MUC" and "transition_without_constraints" and call this shapefile **constraints_transition_without_MUC**. Add a text field called "Const_TSA" and populate with "Constrained and TSA."

4. Union "major_utility_corridors" with "constrained_transition_without_MUC" and call this shapefile **major_utility_unconstrained**. Then delete all parcels that have "Const_TSA" equal to "Constrained and TSA."

5. Intersect "major_utility_unconstrained" with "zoning" and call this shapefile **major_utility_unconstrained_int_zoning**. Calculate acreage.

6. Open **major_utility_unconstrained_int_zoning.dbf** and create pivot table to add to calculation. From this data:
   - Find total acreage and multiply by 2 units/acre. Remove this from the total constrained transferable units in step 6.
   - Find transferable units from major utility corridor unconstrained land based on zone districts and add to the result of the previous step.

Table 9: Residential Capacity and Average Net Density

Unconstrained Land	Gross Buildable Acres	Less 20% ROW Takeout	Net Buildable Acres	Density (100%)	Units Without Transfer	Total Units	Average Net Density (units/acre)
MURM2	62.47	(12.49)	49.98	34.00	1699.18	1699	
MURS	14.76	(2.95)	11.81	15.00	177.12	177	
R10	159.15	(31.83)	127.32	4.36	554.61	555	
R15	102.43	(20.49)	81.94	2.90	237.97	238	
R20	47.99	(9.60)	38.39	2.18	83.62	84	
R5	75.96	(15.19)	60.77	8.71	529.41	529	
R7	52.21	(10.44)	41.77	6.22	259.92	260	
SFA	55.61	(11.12)	44.49	15.00	667.32	667	
Partially Constrained Land							
Buildable TSA	57.19	0.00	57.19	2.00	114.38	114	
Constrained Land							
Properties 100% Constrained	0.00	0.00	0.00	0.00	23	23	
Subtotal 1	**627.77**	**(114.12)**	**513.65**		**4346.52**	**4346**	**8.46**

Residential Unit Transfer to Buildable Land

One half of properties in R15 and R20 receive full transfer	Gross Buildable Acres	Less 20% ROW Takeout	Net Buildable Acres	Density (37.5%)	Transfer Units	Total Units
R15	102.43	(20.49)	81.94	1.09	89.24	89
R20	47.99	(9.60)	38.39	0.82	31.36	31
Subtotal 2						**120**

Transfer to other Residential Zones and Buildable TSA	Total Transferable Units	Less R15 & R20 Transfer (Subtotal 2)	Remaining Transfer	Untransferred Units	Transfer at 20%	Total Units
Transferable Units	1375	(120)	1255	1004	251	251
Subtotal 3						**251**

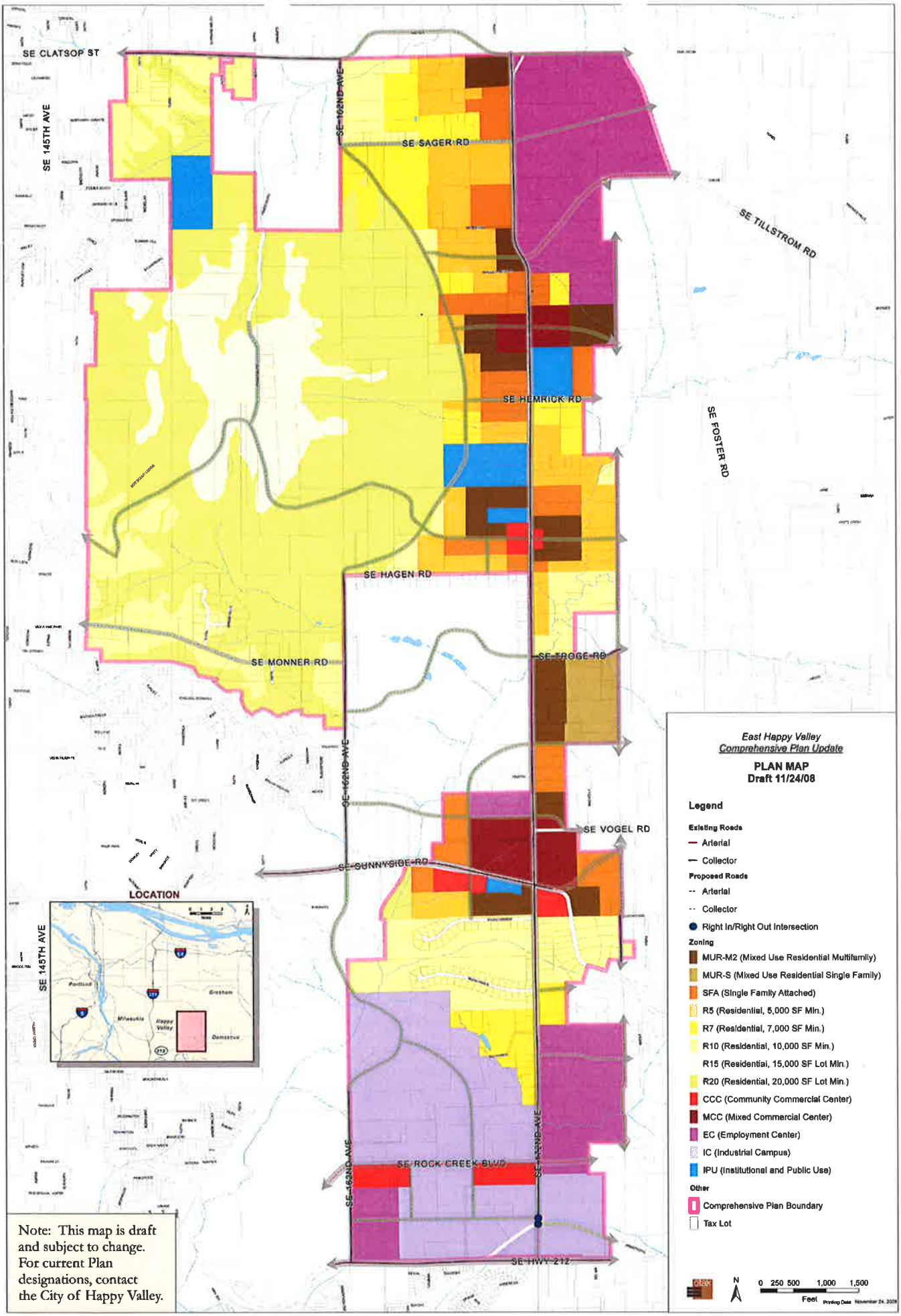
Total Residential Units and Average Net Density

	Net Buildable Acres	Total Units	Average Net Density (units/acre)
Total	**513.65**	**4717**	**9.18**

Transferable Units

Residential Land	Gross Acres	Density	Transferable Units
Constrained Land	602.57	2	1205
Unbuildable TSA	64.89	2	130
Major Utility Corridor Difference*	0.00	By Zone	40
Total Transferable Units			**1375**

*The difference in units between the constrained land density (2 units/acre) and the underlying land use district for otherwise unconstrained land in Major Utility Corridors.


SE CLATSOP ST
SE 145TH AVE
SE 162ND AVE
SE SAGER RD
SE TILLSTROM RD
SE HEMRICK RD
SE FOSTER RD
SE HAGEN RD
SE MONNER RD
SE FROGE RD
SE 162ND AVE
SE VOGEL RD
SE SUNNYSIDE RD
LOCATION
SE 145TH AVE
Portland
Gresham
Milwaukie
Happy Valley
Damascus
SE 162ND AVE
SE ROCK CREEK BLVD
SE 172ND AVE
SE HWY 212
East Happy Valley
Comprehensive Plan Update
PLAN MAP
Draft 11/24/08
Legend
Existing Roads
Arterial
Collector
Proposed Roads
Arterial
Collector
Right In/Right Out Intersection
Zoning
MUR-M2 (Mixed Use Residential Multifamily)
MUR-S (Mixed Use Residential Single Family)
SFA (Single Family Attached)
R5 (Residential, 5,000 SF Min.)
R7 (Residential, 7,000 SF Min.)
R10 (Residential, 10,000 SF Min.)
R15 (Residential, 15,000 SF Lot Min.)
R20 (Residential, 20,000 SF Lot Min.)
CCC (Community Commercial Center)
MCC (Mixed Commercial Center)
EC (Employment Center)
IC (Industrial Campus)
IPU (Institutional and Public Use)
Other
Comprehensive Plan Boundary
Tax Lot
N
0 250 500 1,000 1,500
Feet
Printing Date November 24, 2008
Note: This map is draft and subject to change. For current Plan designations, contact the City of Happy Valley.

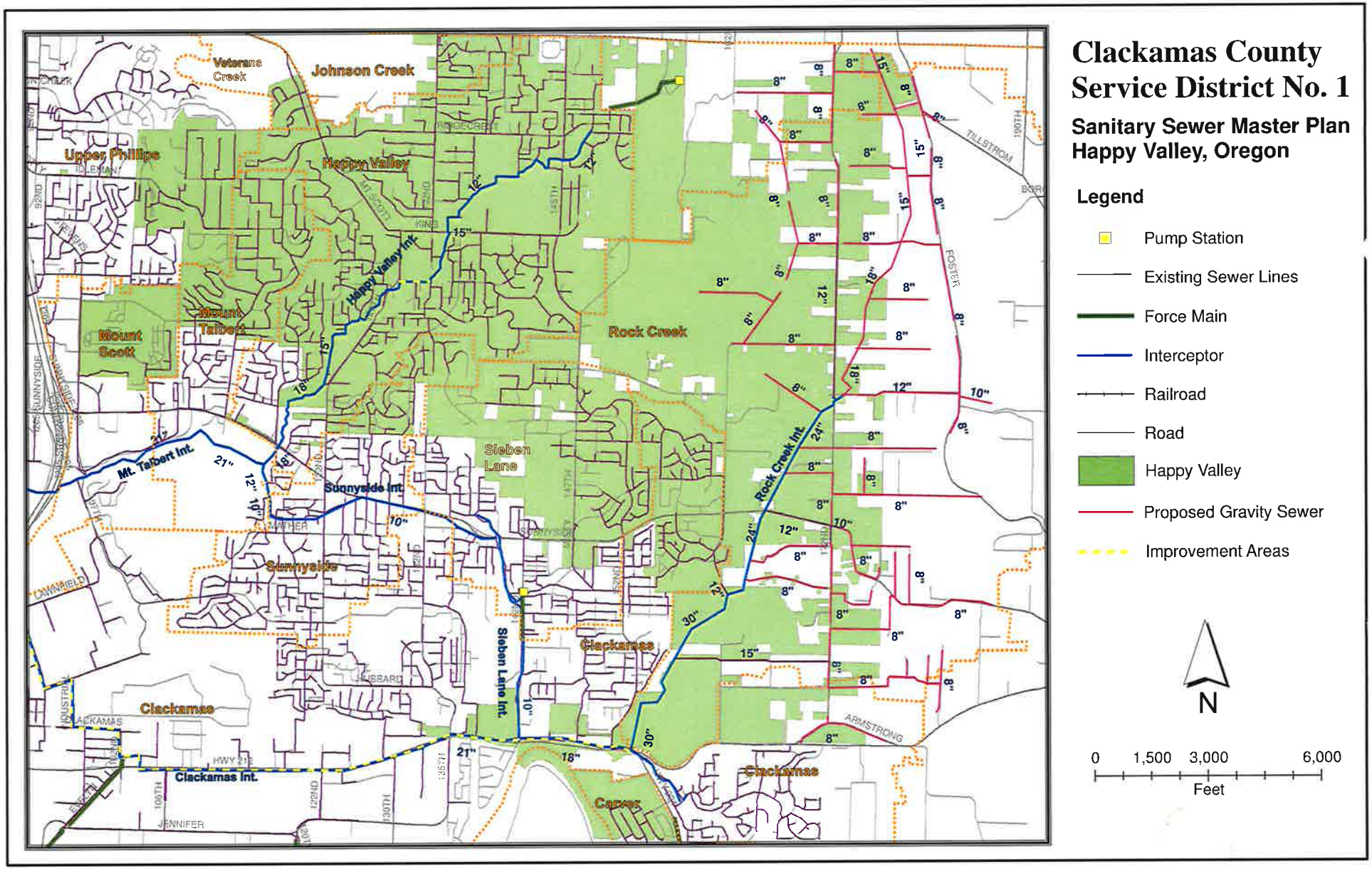

Clackamas County
Service District No. 1
Sanitary Sewer Master Plan
Happy Valley, Oregon
Legend
Pump Station
Existing Sewer Lines
Force Main
Interceptor
Railroad
Road
Happy Valley
Proposed Gravity Sewer
Improvement Areas
N
0
1,500
3,000
6,000
Feet
Veterans Creek
Johnson Creek
Upper Phillips
Happy Valley
Happy Valley Int.
Mount Talbert
Mount Scott
Rock Creek
Mt. Talbert Int.
Sunnyside Int.
Sunnyside
Sieben Lane
Sieben Lane Int.
Rock Creek Int.
Clackamas
Clackamas Int.
Carver

EXHIBIT O

HAPPY VALLEY SERVICE AREA

OVERVIEW

Happy Valley is a City east of Interstate 205 in CCSD1's Sanitary Sewer Service District, with a July 2007 population of 5,007. Happy Valley is bordered by Damascus on the east, Portland to the north and Clackamas County to the west and south. Major creeks in Happy Valley are Rock Creek and Mount Scott Creek. The most prominent topographic feature is Mount Talbert.

The City of Happy Valley has entered into Intergovernmental Agreements (IGA) with Water Environment Services (WES) a Department of Clackamas County to provide sanitary sewer. Water Environment Services provides wastewater collection and treatment and biosolids reuse for seven cities and several unincorporated areas in Clackamas County, including Happy Valley.

The City is served by several major sanitary sewer interceptors as shown on the attached figure that generally flow westerly and currently discharge to the Kellogg Treatment Plant. The Rock Creek Interceptor serves the eastern section of the City (shown as the Rock Creek basin) and discharges to the Clackamas Interceptor along Highway 212. It ranges in size from 24 to 30" at its connection to the Clackamas Interceptor. The central section of the City (Happy Valley and Sieben Lane basins) is served by the Happy Valley and Sieben Lane Interceptors. The Happy Valley Interceptor ranges in size from 12 to 18" where it connects to the Mt. Talbert Interceptor. The western segment of the City is served by the Upper Phillips, Mount Scott and Mt. Talbert Interceptors (see the figure for the corresponding basins.). In addition to these areas, there are portions of the City that do not flow through any of the above named interceptors but directly to the Clackamas Interceptor.

SERVICE AREAS

Based on the master planning analysis currently being performed by WES (January 2009), service areas have been defined that contribute flow to the existing and future planned interceptors. Both existing and future buildout land use scenarios have been analyzed as part of the master plan. For the buildout condition approximately 4,100 acres has been identified that contributes sanitary flow to one of the interceptors. Table 1 provides the contribution percentage based on area from the basins to the Interceptors.

Table 1: Area Contributions to Interceptors

Interceptor	Percentage of Contributing Area
Rock Creek Interceptor	42
Happy Valley Interceptor	36
Mount Talbert Interceptor	8
Sieben Lane Interceptor	7
Upper Phillips Interceptor	5

Table 1: Area Contributions to Interceptors	
Mount Scott Interceptor	2
Clackamas Interceptor (direct discharge)	<1

PROPOSED IMPROVEMENTS

The hydraulic analysis was performed primarily for the interceptor systems with a small amount of additional extensions in the basins. Therefore, statements regarding required capacity are limited to these areas and do not include the smaller pipelines that serve local areas within the City. The portion of Happy Valley that will be served by the Rock Creek Interceptor in the future was analyzed in greater detail to identify potential extensions and connections to the interceptor required to serve future development. These pipelines and preliminary sizes are shown on the figure as proposed gravity pipelines. The analysis was not performed at a level of detail to determine if smaller subbasin areas require pump stations in order to be served.

Improvements are based on a design flow condition for wet weather associated with a 5-year, 24-hour storm event as required by DEQ.

Under existing land use conditions no deficiencies were identified. For buildout conditions there is one area of hydraulic limitation in the existing Happy Valley Interceptor system shown on the figure. Also under build-out conditions flows for the eastern portion of the Service District, including Happy Valley and Damascus, relief is required for the Clackamas Interceptor.

FINAL REPORT

SURFACE WATER MASTER PLANS FOR ROCK AND RICHARDSON CREEK WATERSHEDS

WATER ENVIRONMENT SERVICES

Water Quality Protection • Surface Water Management
Wastewater Collection and Treatment

December 2000

URS Corporation
Watershed Applications, Ltd.
Ellis Ecological Services
G.E. Raleigh and Associates

these deficiencies are expected to occur during the 25-year recurrence interval design storm: Tributary D at SE 162nd Avenue, Tributary F at SE Hemrick, and Tributary H at SE Heuke Road. The 30" culvert on Tributary B at SE Eckert Road and the 36" culvert on Tributary C at SE 172nd Avenue are deficient during the 50-year recurrence interval design storm. The twin culverts (24" and 48" CMPs) on Tributary G at SE Hemrick Road are deficient during the 100-year recurrence interval design storm. As shown in Table 3, all six of the hydraulic deficiencies can be corrected at an estimated cost of $318,000.

Table 3
Capital Improvement Projects for the Rock Creek Watershed

Location	ID # on Figure 2-3	Existing Structure	Hydraulic Deficiency	Land Use Condition	Capital Improvement Project
Reach 6 at SE Borges Rd.	#1	12-inch plastic culvert	25-year design storm	Existing	Install a 30-inch RCP culvert ($46,000)
Tributary D at SE 162nd	#2	30-inch CMP	25-year design storm	Future	Install a 36-inch RCP culvert ($47,000)
Tributary F at SE Hemrick	#3	14-inch RCP	25-year design storm	Future	Install a 21-inch RCP culvert ($44,000)
Tributary H at SE Heuke	#4	Two 24-inch CMPs	25-year design storm	Future	Install two 30-inch RCP culverts ($56,000)
Tributary B at SE Eckert	#5	30-inch CMP	50-year design storm	Future	Install a 60-inch RCP culvert ($74,000)
Tributary C at SE 172nd	#6	36-inch CMP	50-year design storm	Future	Install a 48-inch RCP culvert ($62,000)
Tributary G at SE Hemrick	#7	24" and 48" CMPs	100-year design storm	Future	Install a 4.5 x 8 ft concrete box culvert ($35,000)

Note: Costs are planning level estimates only. 10% has been added for mobilization, 30% for contingencies, 20% for engineering, and 10% for administration.

Capital Projects in Richardson Creek

The recommended conveyance capacity capital projects and the estimated costs for each project are shown in Table 4 and described as followings:

Five hydraulic deficiencies in the existing drainage system are expected to occur under existing land use conditions. Since these deficiencies could cause flooding under existing land use conditions, replacement of these undersized culverts should be given a high priority. The total estimated cost of these five capital improvement projects is $338,000.

As discussed in the previous section, three additional hydraulic deficiencies are expected

Memorandum

URS Corporation

To: Mike Nacrelli

From: Binhong Wu and Mike Fowler

Date: September 22, 2000

Subject: Hydrology and Hydraulic Analysis of Rock Creek and Richardson Creek

I. INTRODUCTION

The Rock Creek and Richardson Creek watersheds have an area of approximately 15 square miles and are located at the southeastern edge of the Portland metropolitan area. Both creeks drain to the Clackamas River. Much of the land within the Rock Creek and Richardson Creek watersheds lies outside the Portland metropolitan area's urban growth boundary (UGB). However, these two watersheds, currently occupied by small farms, rural residences, and forested land, are expected to convert to urban uses gradually as the UGB expands.

As the pace of urbanization accelerates and the watersheds are converted to residential neighborhoods and commercial and industrial developments, the proportion of impervious surface in the two watersheds will increase sharply. This will likely result in a significant increase in the volume and peak flow rates of urban runoff. In order to evaluate the implications of future development on the capacity of the existing drainage systems, hydrologic/hydraulic models were developed for the surface water drainage systems in the Rock Creek and Richardson Creek watersheds. The models were then used to identify expected conveyance capacity problems under existing and future land use conditions. For each conveyance capacity problem, a preliminary capital project was recommended as part of the Surface Water Master Plan for the Rock Creek and Richardson Creek Watersheds (Master Plan).

This memorandum describes the model preparation and the results of the hydrologic/hydraulic analyses. The drainage systems in the Rock Creek and Richardson Creek are two independent systems and therefore they are discussed separately in this memo.

II. STUDY AREA

Rock Creek

Rock Creek, shown in Figure 2-1 in the Master Plan, drains a watershed with an area of 6,280 acres in Clackamas County. Rock Creek rises in the hills east of I-205 and flows in a generally southwesterly direction to its confluence with the Clackamas River. Elevations in the watershed range from more than 1,000 feet above sea level in the hills to 70 feet above sea level at its confluence with the Clackamas River. Most of the land in the watershed is currently used for agriculture, nurseries, private forestland, open space, and rural residences.

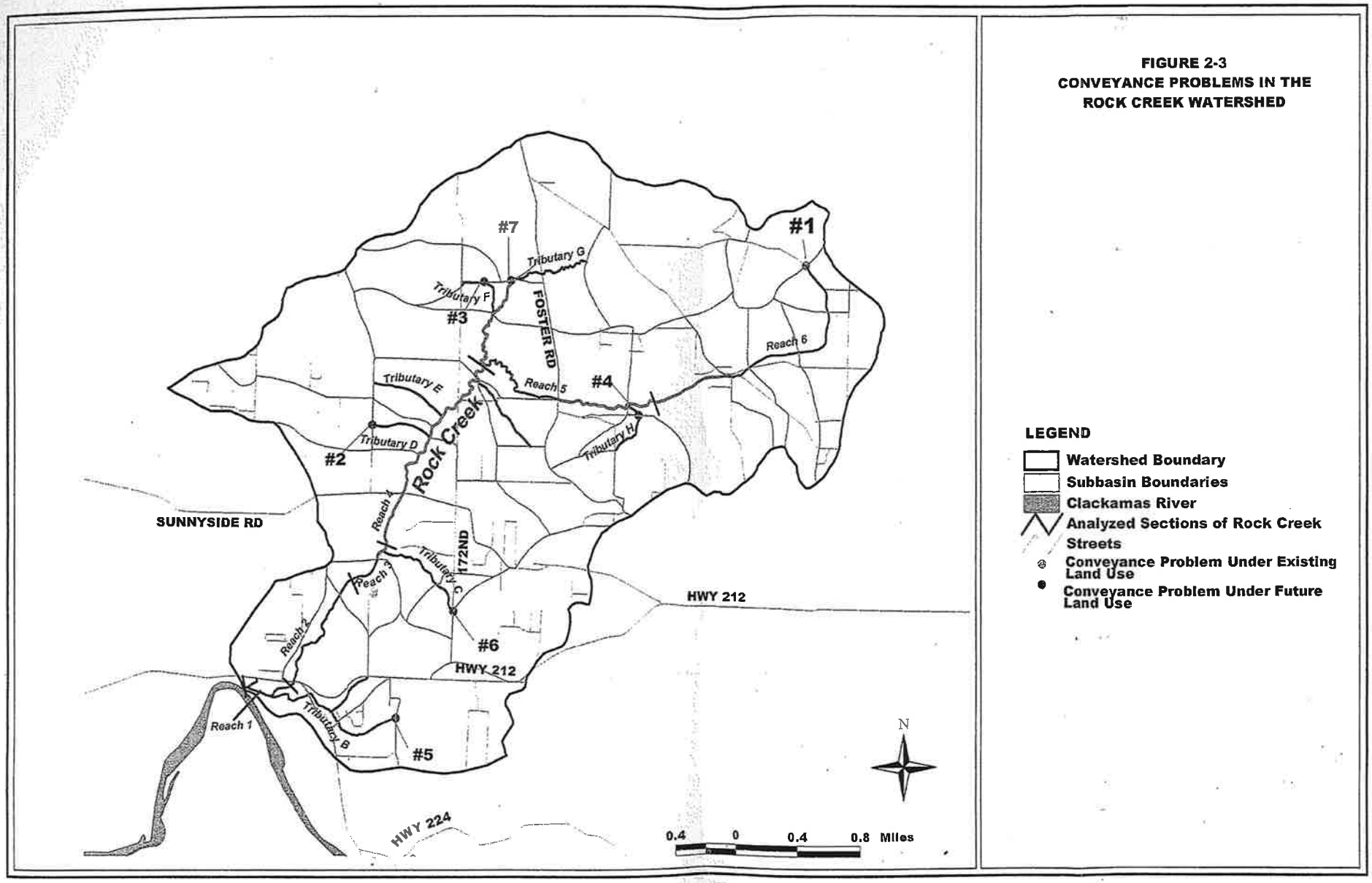


FIGURE 2-3
CONVEYANCE PROBLEMS IN THE ROCK CREEK WATERSHED

Exhibit 5-2
Existing Piping System

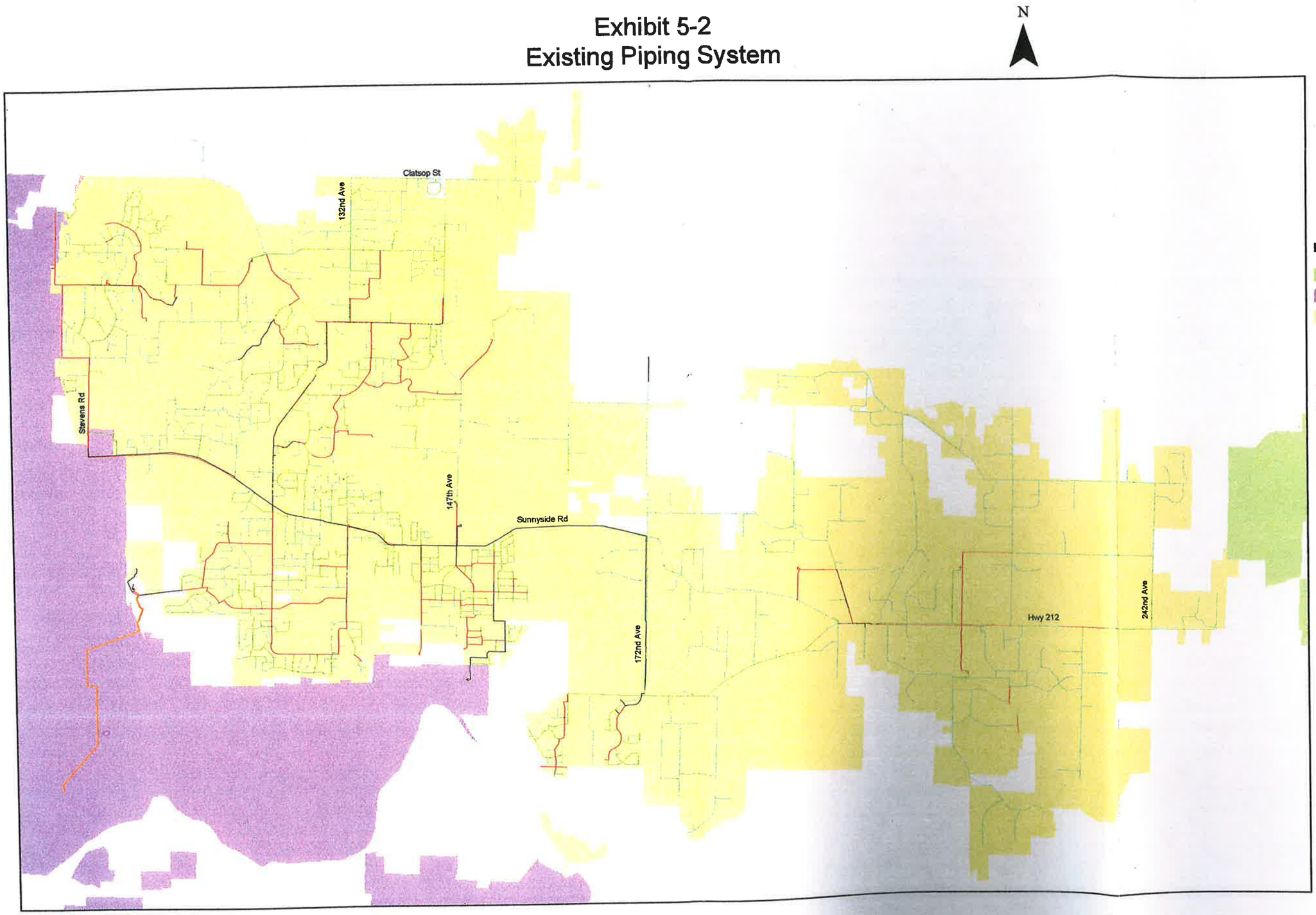
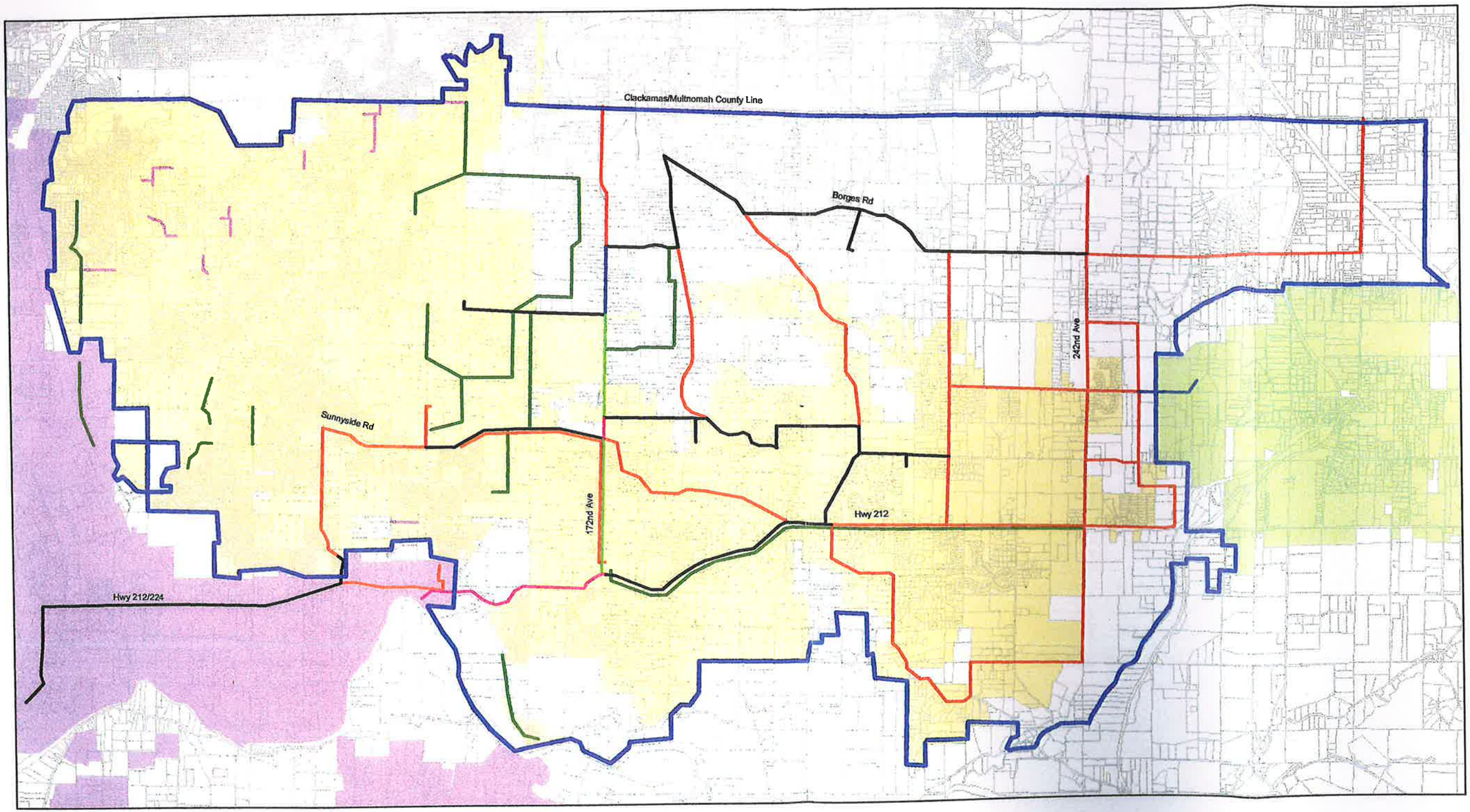


EXHIBIT P

Exhibit 5-5
Future Piping System



1 inch equals 4,000 feet

RESOLUTION No. 07/08-44

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NORTH CLACKAMAS SCHOOL DISTRICT No. 12 ENACTING A CONSTRUCTION EXCISE TAX; AND, AUTHORIZING INTERGOVERNMENTAL AGREEMENTS TO IMPOSE AND COLLECT SAID TAX.

WHEREAS, the North Clackamas School District No. 12 is authorized and responsible for the locating, construction, operation and maintenance of public school capital improvements within its jurisdiction; and

WHEREAS, the North Clackamas School District No. 12 is a school district as defined in ORS 330.005 which has a long-term facilities plan for making capital improvements adopted by resolution of the district board of the school district; and

WHEREAS, the Board of Directors of the North Clackamas School District No. 12 having considered and deliberated at a public meeting the public interest and necessity of imposing a construction excise tax to finance protecting and preserving its existing capital improvements and for the construction of new capital improvements to serve a growing population within its jurisdiction, and to finance or refinance the same; and

WHEREAS, pursuant to Oregon Laws 2007 Chapter 829 the Board of Directors of the North Clackamas School District No. 12 has determined that there is a compelling public need to finance or refinance said capital improvements; now, therefore:

BE IT RESOLVED BY THE NORTH CLACKAMAS SCHOOL DISTRICT No. 12 THAT:

SECTION 1.

(1) The North Clackamas School District No. 12 enacts a construction excise tax to be imposed only on improvements to real property that result in a new structure or additional square footage in an existing structure at a rate of:

(a) One dollar ($1.00) per square foot on structures or portions of structures intended for residential use, including but not limited to single-unit or multiple-unit housing; and

(b) Fifty cents ($0.50) per square foot on structures or portions of structures intended for nonresidential use, not including multiple-unit housing of any kind.

(2) In addition to the limitations under subsection (1) of this section, a construction tax imposed on structures intended for nonresidential use may not exceed $25,000 per building permit or $25,000 per structure, whichever is less.

EXHIBIT Q

(3) (a) For years beginning on or after June 30, 2009, the limitations under subsections (1) and (2) of this section shall be adjusted for changes in construction costs by multiplying the limitations set forth in subsections (1) and (2) of this section by the ratio of the averaged monthly construction cost index for the 12-month period ending June 30 of the preceding calendar year over the averaged monthly construction cost index for the 12-month period ending June 30, 2008.

(b) The adjusted limitations under this section and shall be pursuant to the report of the construction cost index published by the Oregon Department of Revenue. As used in this section, the "construction cost index" means the Engineering News-Record Construction Cost Index, or a similar nationally recognized index of construction costs as identified by the department by rule.

(4) Construction taxes shall be paid by the person undertaking the construction at the time that a permit authorizing the construction is issued.

SECTION 2. The construction taxes shall not be imposed on the following:

(1) Private school improvements.

(2) Public improvements as defined in ORS 279A.010.

(3) Residential housing that is guaranteed to be affordable, under guidelines established by the United States Department of Housing and Urban Development, to households that earn no more than 80 percent of the median household income for the area in which the construction tax is imposed, for a period of at least 60 years following the date of construction of the residential housing.

(4) Public or private hospital improvements.

(5) Improvements to religious facilities primarily used for worship or education associated with worship.

(6) Agricultural buildings, as defined in ORS 455.315(2)(a).

(7) Improvements to real property that result in a new structure or additional square feel totaling 1,000 square feet or less.

SECTION 3.

(1) After deducting the costs of administering a construction tax and payment of refunds of such taxes, pursuant to intergovernmental agreement with collecting agencies, the District shall use net revenues only for capital improvements.

(2) As used in this section, "capital improvements" means:

(A) The acquisition of land;

(B) The construction, reconstruction or improvement of school facilities;

(C) The acquisition or installation of equipment, furnishings or other tangible property;

(D) The expenditure of funds for architectural, engineering, legal or similar costs related to capital improvements and any other expenditures for assets that have a useful life of more than one year; or

(E) The payment of obligations and related costs of issuance that are issued to finance or refinance capital improvements.

It does not include operating costs or costs of routine maintenance.

SECTION 5. The school district may pledge construction taxes to the payment of obligations issued to finance or refinance capital improvements as defined herein.

SECTION 6. This Resolution takes effect on October 5, 2007.

Considered and enacted at the regular meeting of the Board of Directors of the North Clackamas School District No. 12 on the 4th day of October, 2007.

North Clackamas School Board Chair

Attest

RESOLUTION No. R06/07-164

RESOLUTION OF THE BOARD OF DIRECTORS OF THE NORTH CLACKAMAS SCHOOL DISTRICT No. 12 ADOPTING THE LONG-TERM FACILITIES PLAN FOR MAKING CAPITAL IMPROVEMENTS.

WHEREAS in the spring of 2005 the district hired Mahlum Architects to collaboratively work with a community advisory committee to develop a long-term Facilities Master Plan, and this plan was completed November 11, 2006; and

WHEREAS Senate Bill 1036 allows school districts, by resolution adopted by the School Board, to impose construction excise taxes through intergovernmental agreements with other local governments; and

WHEREAS Senate Bill 1036 states that the construction tax may not be imposed unless the school district develops a long-term facilities plan for making capital improvements, and the School Board adopts the plan by resolution; now, therefore

BE IT RESOLVED BY THE NORTH CLACKAMAS SCHOOL DISTRICT No. 12 THAT:

The District adopts the November 2006 Facilities Master Plan as their long-term facilities plan for making capital improvements as required by Senate Bill 1036.

Considered and enacted at the regular meeting of the Board of Directors of the North Clackamas School District No. 12 on the twenty-first day of June, 2007.

Chair, NCSD Board of Directors

Witness

EXECUTIVE SUMMARY

In the spring of 2005, the North Clackamas School district hired Mahlum Architects to develop a Facilities Master Plan. The purpose of the plan was to evaluate the adequacy of existing educational facilities and to address housing the growing student population in the district. District support facilities were not evaluated as a part of this planning process.

Mahlum Architects worked closely with a community advisory committee to develop the master plan. The Advisory Committee, established in March 2005, provided a community voice for the planning process. Their role was to represent the overall community, consider the long-term needs of the district, respond to plan options presented and to make recommendations to the school board regarding the master plan. The committee met for five sessions between March and July to review background information and respond to various planning alternatives. The committee provided valuable insight to the planning process and reflected the diversity of opinion that exists within the district. While the committee did not achieve full consensus regarding the master plan, a summary of their perspective regarding key aspects of the plan is included at the end of this section.

DISTRICT GROWTH

The North Clackamas School district has experienced rapid growth in the last six years, with an 11% rise in student population since 1998. The growth areas of the district already exceed current capacity with many students housed in portables. This growth is expected to continue, fueled by an expansion of the urban growth boundary in the eastern portion of the district. Population increases are expected to continue over the next ten to twenty years as land within district's boundaries becomes fully developed.

The planning process did explore alternative solutions to accommodate growth including: double-shifts, year-round school, magnet schools and redistribution of the student population to increase existing facility utilization. It was determined that while these options could provide short-term relief to the district's growth dilemma they could not accommodate long-term growth demands. Other ramifications would include: disruption to family lives, potential impacts to student learning, and increased operational costs.

EXISTING CONDITIONS

The district consists of 18 elementary schools, three middle schools, three core high schools and five other learning centers. The majority of school buildings were originally constructed prior to 1960. Many of the building systems are outdated, inefficient and in need of significant repair or replacement. A physical assessment of each educational building indicated that approximately one third of all district facilities are in need of major modernization or replacement. The total cost to repair all district schools would be approximately $424,000,000 (in 2010 dollars). This level of repair and upgrade would meet current educational goals, address failing building systems and achieve full code compliance. It is unlikely that the school district could pass a bond of this magnitude, therefore a long-term strategy spanning a series of bonds will be required to address existing conditions.

It is recommended that a minimum amount of funds be expended to correct the worst health,

life safety and building condition issues. The District should then focus the funds available on a limited number of buildings, fully upgrading them to a 30-year standard.

PRACTICAL GUIDELINES AND PRINCIPLES

The master plan utilized the following practical guidelines for development of plan options.

- Elementary capacity should be planned for 550 students.
- Middle school capacity should be planned for 700 - 750 students
- High school capacity should be planned for 1800 students (Milwaukie/Rex Putnam capacity at 1500)
- Any plan should allow for flexibility in grade configuration at the middle level (such as 6,7,8 or 7,8)
- Where significant investment is required to existing facilities (greater than 75% of the replacement cost) consider the cost/benefits of replacement.
- Provide community amenities.

COMMUNITY ADVISORY COMMITTEE RECOMMENDATIONS

In order to adequately prepare for the projected student population growth within the district over the next 10-20 years, the school district should purchase the land that will be required to build: 4 elementary schools, 1 middle school, 1 high school. This is viewed as a wise investment of taxpayer money. The majority of the committee believes that land values will continue to rise and land will become less available as the community continues to grow.

Growth and the need for new facilities yielded a diversity of opinion. The following principles should be considered when determining the need for new facilities:

- There should be a more extensive exploration of all alternatives to building new facilities. Operational cost impacts should be fully understood before ruling out these alternatives.
- A portion of the committee felt that more pressure should be brought to bear on the state legislature to help support the districts impacted by the expansion of the urban growth boundary
- There should be a balance across the district with regards to the amount of money spent to construct new schools in the growth areas and in the repair of aging facilities in other parts of the district.

The following principles should be considered regarding repair and renovations to existing facilities:

- All schools should have, at a minimum, the worst health and life-safety issues corrected.
- The district should repair all roof and building skin deficiencies in order to protect its current capital investment.

- Maintenance and repair of existing facilities will be an on-going process for the district. Adequate funds should be invested so that the buildings will last over time.
- The number one priority in the renovation of facilities should be providing a high-quality educational environment for students, teachers and staff.
- It is more cost effective to spend a significant amount of money at fewer schools in order to fully upgrade those schools to a 30-year+ life-span.
- The decision to replace an existing school should be made on a case-by-case basis taking into account historical significance and community significance.
- A comprehensive plan to fully update all facilities should be provided to the district population to describe when all facilities will be updated (recognizing that this will be dependent on the district's ability to pass future bonds)
- The district should undertake an outreach program to inform the public of the condition of existing schools.
- It was recognized that consolidation of some schools might save in operational costs and the capital investment required for repairs, however, the committee was divided on the idea of consolidation, or closing existing schools.

BOND OPTIONS

The planning process considered a number of potential bond options to address the needs of the district. Bond configurations explored ranged from minimal impact scenarios to comprehensive solutions. There was concern about the level of support that could be expected from the community and it was acknowledged that significant outreach efforts would be required in order to garner the support required to pass a bond.

The following tables reflect two possible models for "replacement weighted" bond options.

$185 MILLION BOND OPTION

The $185 million dollar bond option equates to the amount of bond passed in 1998. This option includes the purchase of all future sites required to accommodate growth in the next 20 years. It also includes the construction of two new elementary schools and one new middle school. This bond amount would also allow three older elementary schools to be replaced. The amount of money identified for renovations would accommodate only the worst building conditions at the remaining elementary schools, while providing the ability to accomplish significant renovations or additions at the middle school and high school level. A small amount of money has been identified for community amenities to be identified during the outreach process and could include items such as new fields, bleachers or other similar projects.

$185 Million Cost Summary (in 2010 dollars)

SITE ACQUISITION		
Elementary	4	$10,000,000
Middle	1	$5,000,000
High	1	$10,000,000
Sub Total		$25,000,000
NEW SCHOOLS		
Elementary	2	$35,000,000
Middle	1	$27,000,000
High	0	$0
Sub Total		$62,000,000
REPLACEMENT SCHOOLS		
Elementary	3	$54,000,000
Middle	0	$0
High	0	$0
Sub Total		$54,000,000
ADDITIONS/RENOVATIONS		
Elementary		$5,000,000
Middle		$10,000,000
High		$25,000,000
Sub Total		$40,000,000
COMMUNITY AMENITIES		
Elementary		$1,000,000
Middle		$1,000,000
High		$2,000,000
Sub Total		$4,000,000
TOTAL		$185,000,000

$240 MILLION BOND OPTION

The key difference in the $240 million dollar bond is that it provides the ability to replace five of the older district elementary schools and make more significant improvements to the existing middle schools and high schools.

$240 Million Cost Summary (in 2010 dollars)

SITE ACQUISITION		
Elementary	4	$10,000,000
Middle	1	$5,000,000
High	1	$10,000,000
Sub Total		$25,000,000
NEW SCHOOLS		
Elementary	2	$35,000,000
Middle	1	$27,000,000
High	0	$0
Sub Total		$62,000,000
REPLACEMENT SCHOOLS		
Elementary	5	$90,000,000
Middle	0	$0
High	0	$0
Sub Total		$90,000,000
ADDITIONS/RENOVATIONS		
Elementary		$5,000,000
Middle		$18,000,000
High		$35,000,000
Sub Total		$58,000,000
COMMUNITY AMENITIES		
Elementary		$1,000,000
Middle		$1,000,000
High		$2,000,000
Sub Total		$4,000,000
TOTAL		$239,000,000

SUMMARY

The district should address aging facilities in a comprehensive way. An upgrade program in 8-10 year increments could fully update existing facilities within the next 30 years. (A $185M Bond would require 4-5 bonds to fully complete the work required. A $240M Bond would require 3-4 bonds to fully complete the work.)

A masterplan weighted towards replacement is the most cost effective way to address aging and outdated facilities.

All property should be purchased as soon as possible to meet future growth predictions.

New facilities should be constructed to meet the growing student population.

Further study of other educational models should continue. The exploration of middle school grade configurations, the implementation of new charter schools and the benefits/ ramifications of year-round school should be studied. These initiatives, however, should not be done solely for capacity reasons, but rather should be implemented for their educational merit.

ENTENNIAL SCHOOL DISTRICT
18135 S.E. Brooklyn
Portland, OR 97236
503-760-7990

NEW BUSINESS

TO: Board of Directors

DATE: June 11, 2008

SUBJECT: Impose the Construction Excise Tax and approve Intergovernmental Agreements with City of Portland, City of Gresham and Clackamas County.

A construction excise tax in the amount of $1.00 per square foot on residential structures or $.50 per square foot on nonresidential structures is authorized by Senate Bill 1036. The tax is limited to $25,000 per building permit or $25,000 per structure, whichever is less. The purpose of this resolution is to impose the construction excise tax and approve the intergovernmental agreements with various agencies to collect the tax.

Imposing this tax also requires that the school district adopt a long range facility plan. The Board of Directors adopted a long range facility plan in May 2005. A copy of that Facility Plan is attached and referenced herein. The funds generated by the Construction Excise Tax may be used to purchase land, construct, reconstruct or improve school facilities, acquire and install furniture, fixture or equipment, pay for architectural engineering, legal or similar costs related to capital improvements, the payment of obligations and related costs to finance or refinance capital improvements.

Concurrent with imposing the Construction Excise Tax, the Board must approve an intergovernmental agreement (IGA) with each jurisdiction responsible for collecting the tax. Attached are IGA's for the City of Portland, the City of Gresham and Clackamas County.

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It is recommended that the board impose the Construction Excise Tax at the rate of $1.00 per square foot on residential structures or $.50 per square foot on nonresidential structures, limited to $25,000 per building permit or $25,000 per structure and approve Intergovernmental Agreements with City of Portland, City of Gresham and Clackamas County

Respectfully submitted,

Robert A. McKean
Superintendent of Schools

Prepared by,

Richard G. Larson
Director of Business & Operations

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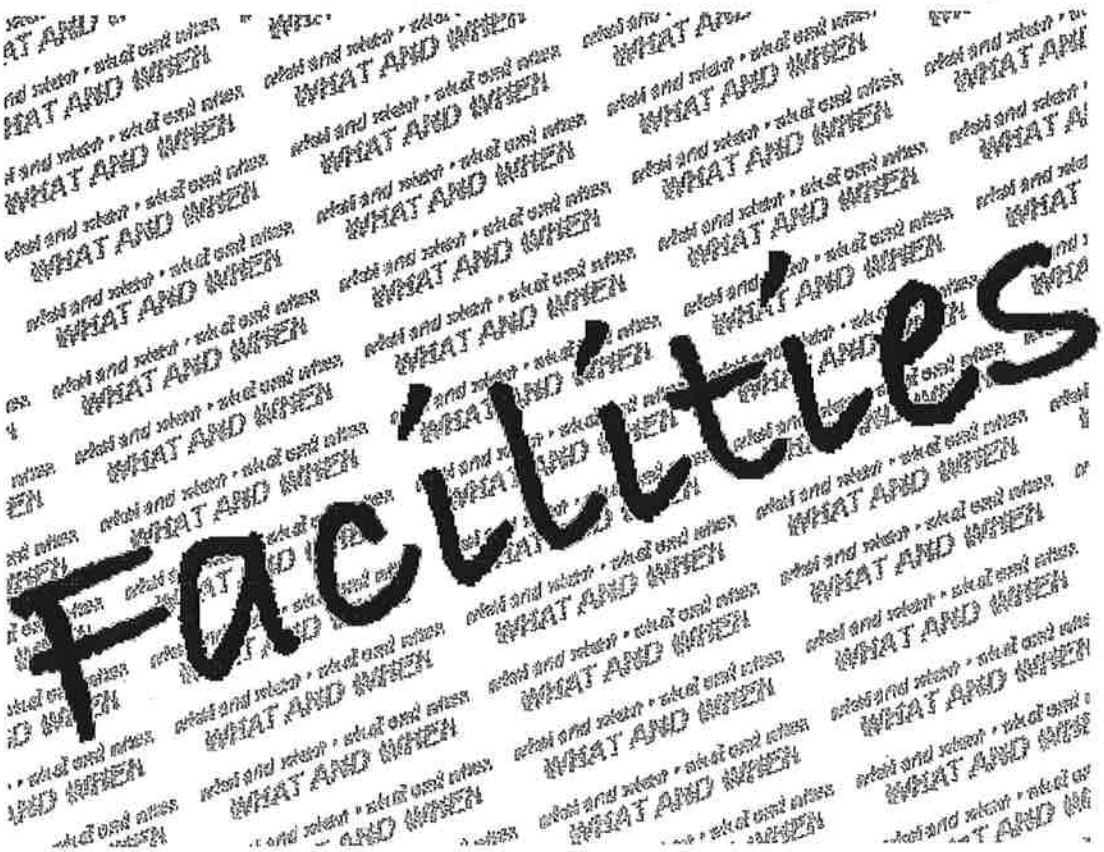
06/04/08

Agenda Item 7.202

EXHIBIT R

CENTENNIAL LONG RANGE FACILITIES PLANNING COMMITTEE

Final Report



PRESENTED MAY 25, 2005

COMMITTEE MEMBERS

COMMUNITY: Kelly Adams, John Bliss, Rick Catron, Wally Child, Ellen Christensen, Tim Cook, Dave Dillingham, Bud Farm, Don Funrue, Sharon Garner, Kurt and Jo Kaufman, James & Jeannie McCandie, Henry McDowell, Marcia Morrow, Rocky Rodriquez, Jaymi Salazar, Melinda Thomas, Kim West, Mike Weinberger, Derek & Rhonda Weyhrauch and Michelle Winningham **STAFF:** Art Anderson, Doug Cook, Laura Fendall, Jamie Juenemann, Rick Larson, Wendy Reif, Laura Scully

LONG RANGE PLANNING COMMITTEE REPORT 2005

Background

With Centennial Middle School running at capacity and development expected to accelerate in the southern part of the school district, the Centennial School Board established a Long-Range Planning Committee in November 2005 to gather and analyze information and develop a facilities recommendation to bring back to the board in late Spring of 2005. The committee was asked to consider the following factors:

- Students' educational needs
- Services necessary for supporting students' educational needs
- Capacity and program use of current facilities
- Changing demographic trends and enrollment projections
- School facility needs for the next 10 years & timing of those needs
- Future use of the undeveloped portion of the Butler property and needs for land for future schools in the urbanizing southern part of the district
- Geographic analysis to determine the best location, if a new school is proposed
- Cost of various new construction options and major maintenance and remodeling needs in comparison to educational implications of each
- Community willingness to support educational and financial elements of the recommendations
- Other future long range issues that emerge.

Committee Make-Up

More than two dozen community members in addition to several employees actively participated in the group and its subcommittees. Members included:

Demographics subcommittee
Kelly Adams, Ellen Christensen, Bud Farm, Wendy Reif and Michelle Winningham.
Education subcommittee
Art Anderson, Tim Cook, Laura Fendall, Sharon Garner, Kurt and Jo Kaufman, Marcia Morrow, Laura Scully, Melinda Thomas, Kim West, and Derek & Rhonda Weyhrauch.
Facilities subcommittee
John Bliss, Rick Catron, Wally Child, Doug Cook, Dave Dillingham, Don Funrue, Jamie Juenemann, Rick Larson, James & Jeannie McCandie, Henry McDowell, Rocky Rodriquez, Jaymi Salazar and Mike Weinberger.

Committee Process

Committee members began meeting in December 2004. They met twice before breaking into subcommittees of their own choosing to delve more deeply into the research and data specific to their respective assignments. The demographics group looked at enrollment projections from several sources relative to building capacities; education committee members researched issues related to grade configuration and alternative education, and the facilities subcommittee

considered facility options, needs and related costs. Each subcommittee reported its findings back to the full group so that the full committee had the necessary background information for developing final recommendations. This report is a summary of the findings from the group's first eight meetings. The report is intended to show some general conclusions that will ultimately lead to more specific recommendations. Areas where there remain some unanswered questions are noted throughout the report.

DEMOGRAPHICS SUBCOMMITTEE

Scope of work

1. Looked at enrollment projections from
   - Portland State University Population Research Center
   - Centennial's historic enrollment trends
   - Information Management Systems
     (firm that provides annual projections for district)

   Note: Both IMS and PSU provided more than one method of projecting enrollment.

2. Compared the enrollment projections with building capacity using both the current grade configuration and K-5, 6-8, 9-12 configuration option.

In determining which numbers to use in formulating conclusions, committee members used the high projection from Portland State University. These numbers showed modest growth of 3 percent, which approximates the historical enrollment growth in the district, yet reflects some acceleration of growth as the expanded urban area develops in the southern part of the district. The committee felt confident of the projections because all of the projections were relatively modest and close to one another.

Findings

- The lowest variability in enrollment projections occurred at the middle school level.
- The most immediate need is at the middle school because the enrollment is going to continue to grow.
- An additional middle school facility is needed in the short-term regardless of grade configuration. The current middle school with grades 7-8 already is running at the high end of its capacity.
- If the current grade configuration is maintained, elementary school enrollment will exceed current building capacity in 2007.
- Addressing the space needs of the middle school group by changing to a 6-8 middle school configuration opens space in the elementary schools (*see scenario graphs*)
- If the district were to change to a K-5, 6-8 configuration, and a second middle school opened, elementary enrollment would not exceed building capacity until 2013-14.
- With its current usage and structure, CHS will reach capacity in 5-10 years.

Other Considerations

- Need to continue to evaluate the pace of development in the Pleasant Valley area because it could increase the need for space

- This review of enrollment doesn't examine the impact of the changing demographics within the population (ie: poverty, non-native English speaking population, ethnic diversity). These factors could affect core facilities in ways this committee did not evaluate.
- The committee ought to reconvene annually to re-evaluate recommendations based on actual enrollment growth.

ENROLLMENT PROJECTIONS VS SCHOOL CAPACITY

Scenario #1 – Keep current grade configuration (K-6 in elementary, 7-8 middle school)

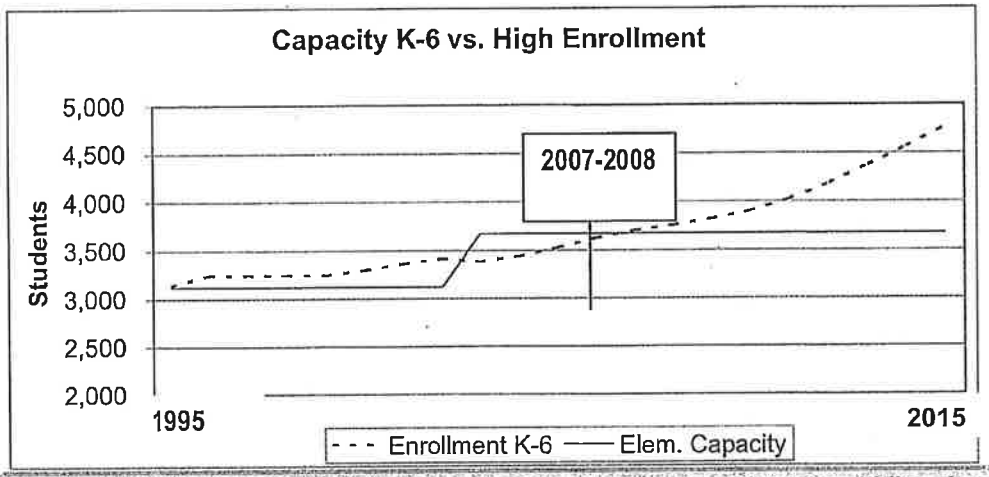
CONCLUSIONS:

- Additional middle school needed

Centennial Middle School is already at capacity. Projected enrollment growth shows the middle school population will continue to increase, making the building even more crowded.

- Elementary enrollment will exceed capacity in 2007

Even if a middle school is built, elementary population will exceed capacity by 2007.



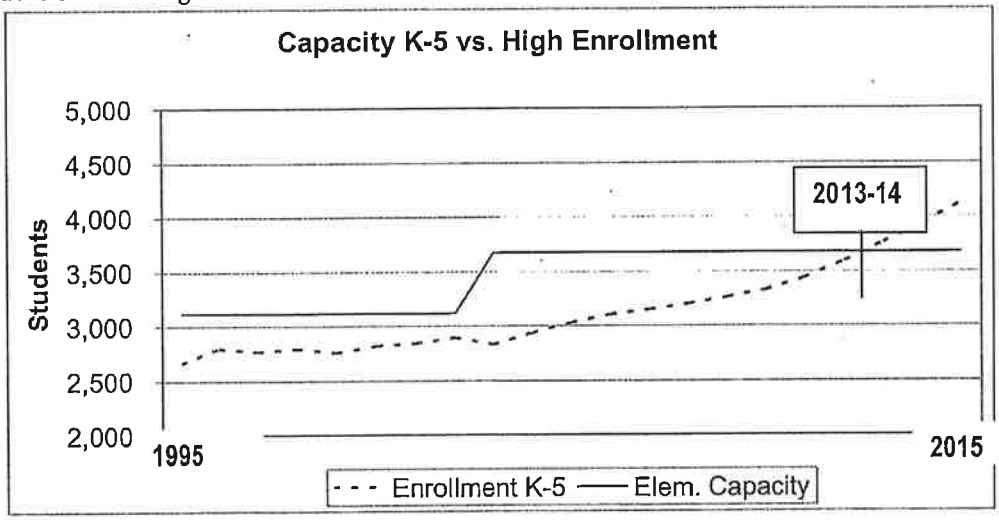
Scenario #2 – Change grade configurations to K-5 in elementary and 6-8 in middle school

CONCLUSIONS:

- Additional middle school needed

Centennial Middle School is already at capacity and would be unable to fit grades 6-8 unless an additional middle school were constructed.

- **Elementary enrollment would not exceed building capacity until 2013-14** if a new middle school for grades 6-8 were built.



EDUCATION SUBCOMMITTEE

Scope of work

1. Developed a list of advantages/disadvantages for middle schools with 7-8 vs. 6-8 configuration
2. Analyze the educational rationale for alternative education

Findings – configuration

- Developmentally (socially, emotionally & physically), 6th grade students are similar to 7th and 8th grade students and require the same supports and practices that middle schools aspire to. Critical factors are adult role models, social/emotional support practices and personnel and parent involvement.
- Behaviors of older students are tempered by having younger students in the school.
- Parental involvement increases the longer students are in a particular school (*Note: currently the middle school only has students for 2 years*).
- Student behavior & performance suffer from frequent transitions (*Note: a 6 – 8 configuration would provide a smoother and longer transition into middle school and high school than is now possible*).
- There is NO **correlation between any grade configuration and academic success of students.**

Research clearly states that the final decision about grade configuration for middle schools is more often driven by emotions of the community and parents than by data.

Findings – alternative education

There is sound rationale to support alternative education programs:

- One-fourth of all students drop out of school before receiving their high school diploma. Alternative education provides a means of reconnecting these students to education.
- Alternative educational settings provide more support and encouragement to at-risk students than a regular setting may be able to provide.
- Recovering students from the ranks of dropouts has implications for reducing the prison population (80% of those in prison are high school dropouts).

Quote from a Northwest Regional Educational Lab research article about alternative ed:
"Every student who leaves the system early, either by choice or as a punishment, loses much more than a diploma. These young people are being disconnected from the functions of society...not just from economic productivity, but from the very functions of citizens in a democracy."

- Alternative placement needs of Centennial's middle and high school's population (as expressed by secondary administrators) exceeds the current capacity of the Centennial Learning Center.
- Expansion of the district's alternative education programs should be supported.

Considerations

Could a thoughtful approach to building a new middle school provide space for in-building alternative programs in our middle schools as well as those housed at CLC and other county alternative programs?

FACILITIES SUBCOMMITTEE

Scope of work

1. Consider options for solving the middle school space needs, both for a 7-8 configuration and a 6-8 configuration
2. Analyze feasibility of converting HOI to either a 7-8 or a 6-8 middle school
3. Analyze feasibility of CLC facility options – adding, remodeling, tear down/new
4. Identify prioritized list of critical maintenance issues/costs
5. Develop priority list of key athletic facility needs/costs
6. Identify facility issues related to future growth

Findings – middle school options

- Second middle school is needed
  - Enrollment is at capacity today
  - Enrollment forecast shows exceeding capacity in a few years
- Building a 6-8 middle school is preferable because it is more cost effective. It frees up space in the elementary schools and defers need to construct additional elementary space until 2012 (for opening in 2013-14).
- Converting HOI to a middle school is not feasible.
  - Could not be a comparable size middle school (strong feeling it should be)
  - Inadequate land for parking. Current parking is minimal for an elementary school, no cost effective way to get sufficient parking for staff or events
  - Outside athletic facilities would never be comparable to CMS
  - It would be a cheap solution in the short-term (2-3 years) but would create capacity needs at the elementary level

Findings – alternative school

- Expansion would require new building
- Adding on or remodeling the existing building would not be a good decision
  - footings unable to handle heavier construction
  - no central heating/ventilation system (mostly baseboard heat)
  - not built to school specifications in terms of central mechanical/electrical systems
- Current location is outstanding because of proximity to MAX and buses
- School should be built for capacity of about 200 students
- Main reasons why current building inadequate
  - no science facilities
  - classrooms are too small. A few classes could handle more students if the rooms were bigger.
  - no PE facilities
  - insufficient number of classrooms
  - inadequate number of restrooms – no segregation between staff and student use
  - Inadequate kitchen facilities

Findings – critical maintenance needs

- PV siding and windows: $150,000. Going to do next year out of capital projects reserve fund
- PV hardwood floor in main hallway – can do a sand and refinish - $10,000. Continues to be deferred
- Meadows annex HVAC system problems: cost/solution both uncertain. Will probably require $5,000-$10,000 for consultant to identify and design solution
- LM/CMS/DO sidewalk – tripping and safety hazard, not ADA friendly, inadequate in size (narrow where kids wait) Cost: $75,000
- Remove asbestos ceiling at Wood, View and HOP – for safety reasons and maintenance.
- Significant areas of asphalt parking lots and playgrounds need replacement.
- Inadequate school bus parking at the service center for the number of vehicles Continued enrollment growth means more buses and no place to park them.
- CMS entry canopy. Poor appearance, dry rot. Estimate: $50,000 to tear down and replace
- Domestic water pipes at HOI, Meadows and District Office are defective. Pipes leak and water tastes and looks bad.
- At the older schools, particularly View, Wood and HOP, classroom updating is needed similar to what was done at the high school - new cabinets, countertops, sinks, flooring, window shades, electric lighting, and whiteboards.
- Flooring in the hallways and common areas are a problem in all the elementary schools except Butler Creek. Some replacement needed at CMS
- Seismic upgrades should be considered to bring buildings up to code

Findings – athletic facility needs

- Renovation of CHS track is needed with or without the installation of artificial turf. The track is at the end of its useful life. Options include a limited upgrade that will last a few years; a $75,000 repave, resurface of what's there; or a few $100,000 to make an 8-lane track and create new space for field events.
- Artificial turf in the CHS stadium would increase capacity of field use and would expand opportunities for the district to rent the facility for other events
- Restrooms needed at the softball field
- CHS tennis courts are cracked and uneven, poor playing surface and tripping hazard. Estimated cost: Minimum $25,000 to resurface, more to relocate
- Lights needed on the baseball field for night play
- JV baseball field needs improvements
- Football stadium sound system needs to be replaced. Cost: $15,000
- CMS locker room upgrade needed. Too small, poor line of sight for supervision (both boys and girls)

Findings – future growth

- Two elementary sites will be needed in the PV urban growth expansion area in the next 7-20 years

- At least one elementary site will be needed in the Damascus/Boring area. Number depends on the final concept plan. Differing amounts of development are proposed in the 4 plans under consideration
- Immediately need one middle school site. Don't know if it needs to be inside a city limit or whether in the PV urban growth expansion area. The problem with the expansion area is whether the city will have water and sewer in place in time for our need. There is no certain timeline for when utilities will be available. The City of Gresham is currently having active discussions about this.
- It appears that the Butler Creek site may be the only option for the district if development needs to occur within an existing city limits (no large parcels of approximately 10 acres available even if district had money to buy it)
- School district will need an additional middle school site in the Damascus/Boring area Development of this area is likely to occur over a 5-20 year period.
- School district will need a high school site in the Damascus/Boring area
- School district will need 5 acres for a Service Center to park buses & accommodate a building for service garage/office and employee facilities.

Considerations/Unanswered Questions

What is the fall back plan if the district has no money to build a second middle school?

Haven't addressed projects that failed to be covered by the last bond measure when projects were scaled back. This includes some CHS projects, such as the extent of CHS locker room work, the concept of adding stand-alone gyms at the elementary schools, purchase for a future school site and some deferred maintenance issues.

Recommendations

The Centennial Long Range Planning Committee has concluded that the school district is facing a number of significant facilities needs that must be addressed. The committee's #1 priority is the construction of a second middle school. Specific recommendations are categorized below as either near-term facilities recommendations or long-term needs. Near-term recommendations are immediate. Long-term needs may extend 10-to-20 years into the future.

Near-Term Facilities Recommendations

The Committee recognizes that it is not feasible for the district to address all these recommendations at the same time or through the same process. Some needs are immediate and critical; others are immediate and important, but may not be considered top priorities. Some facilities needs may best be addressed through a bond measure; others should be addressed in other ways. Keep in mind that projects dependent upon a bond passing could not be completed for another three years.

Therefore, the committee recommends that the School Board:

- direct the administration to evaluate the near-term recommendations further so that the board may **determine the best timing and method to address each need.**
- conduct a community survey **to determine which projects are of the highest priority to the community** and would be supported through a bond measure.

The following are the specific recommendations & conclusions for immediate needs. Other than the middle school, the other near-term critical needs have not been ranked in priority order.

Middle School

- A new middle school should be built as soon as possible.
- Both middle schools should be reconfigured to include grades 6-8 because it is more fiscally responsible to do so. Enrollment estimates indicate that reconfiguring the middle school grades at both schools would postpone the need to construct a new elementary school from 2007 to about 2013.

Considerations:

There should be equity between programs/facilities between the new and existing middle schools.

Converting HOI into the 2nd middle school is not a practical option due to equity issues and site size.

Without a new middle school the district will have to look at options such as portables or double shifting in order to house the school's growing population.

LAND

- Sites for one middle school (referenced above) and one elementary school should be obtained as soon as possible.
- A site should be acquired in an industrial area to replace the existing school bus yard.

Consideration:
Obtaining one site large enough to accommodate both a middle school and an elementary school should be considered.

ALTERNATIVE SCHOOL

- A new alternative school should be built to accommodate 200 students and provide appropriate space and equipment for secondary level classes.

Considerations:
In designing a new middle school, consider space for other types of alternative programs at the middle school.
Creating more alternative school capacity would reduce future enrollment pressure at CHS.
The current site of the alternative school is excellent but the building lacks the infrastructure and foundation that extensive remodeling would require.

MAINTENANCE

- Professional services should be engaged to assist in developing a plan for addressing and prioritizing maintenance needs identified in the findings.

Considerations:
Projects should be phased over time, using operating funds from the general fund budget, fundraising or other means. The magnitude of certain projects precludes likely alternatives to funding through methods other than a bond.

ATHLETIC FACILITIES

- A priority list and plans should be developed to address athletic facilities needs identified in the findings.

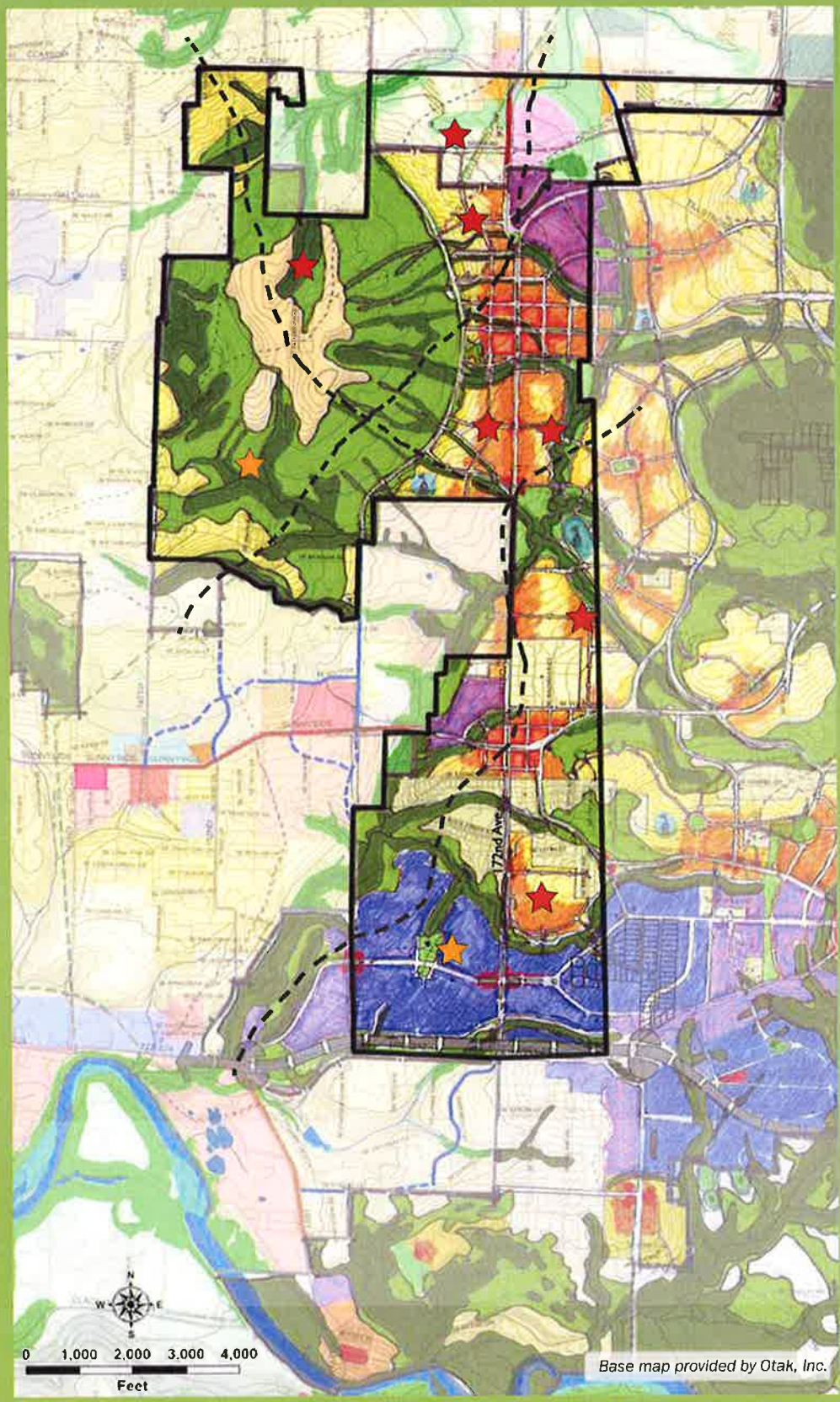
Considerations:
The scope of facility needs addressed will likely vary depending on the amount of funds that may be raised; this is particularly true with respect to the stadium. Various means should be considered. While some district maintenance and other funds may be applied some of the athletic facilities needs, fundraising should be considered for others.

LONG-TERM FACILITIES NEEDS

Based on what the committee considered fairly conservative population projections and the potential for development in the Pleasant Valley and Damascus/Boring portions of the district, several long-term needs emerged. The committee concluded that within the next 10-20 years the district will need:

- Two elementary schools in Pleasant Valley area
- One elementary in the Damascus/Boring area
- One high school in the Damascus/Boring area

EAST HAPPY VALLEY
Proposed Parks & Trails



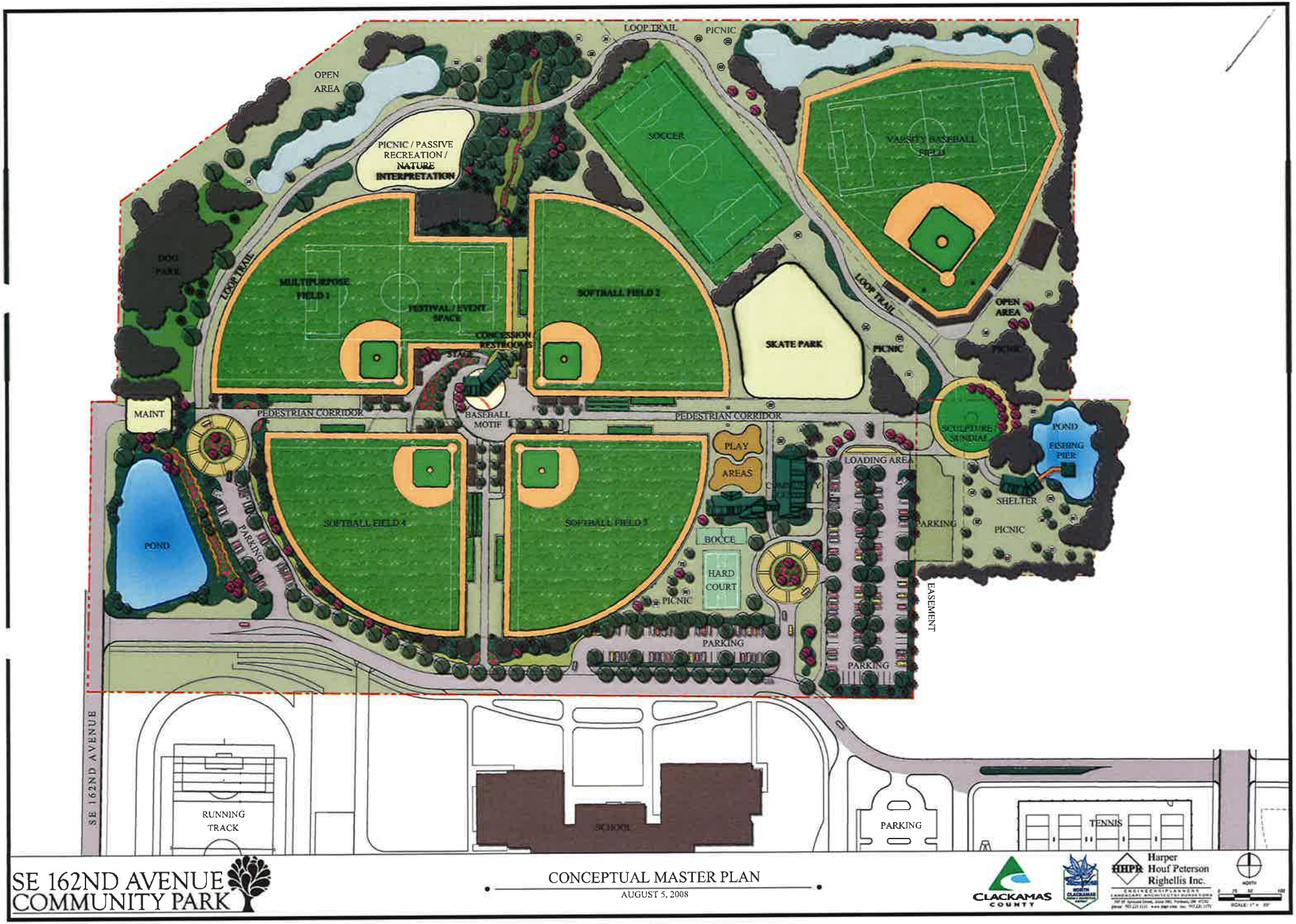
CLACKAMAS COUNTY

NORTH CLACKAMAS PARKS & RECREATION DISTRICT

In partnership with the City of Happy Valley

The above proposed parks are included in North Clackamas Parks & Recreation District Capital Improvement Plan. Park and trail locations are tentative and are for planning purposes only. Exact locations have not yet been determined. 5/8/07

EXHIBIT S



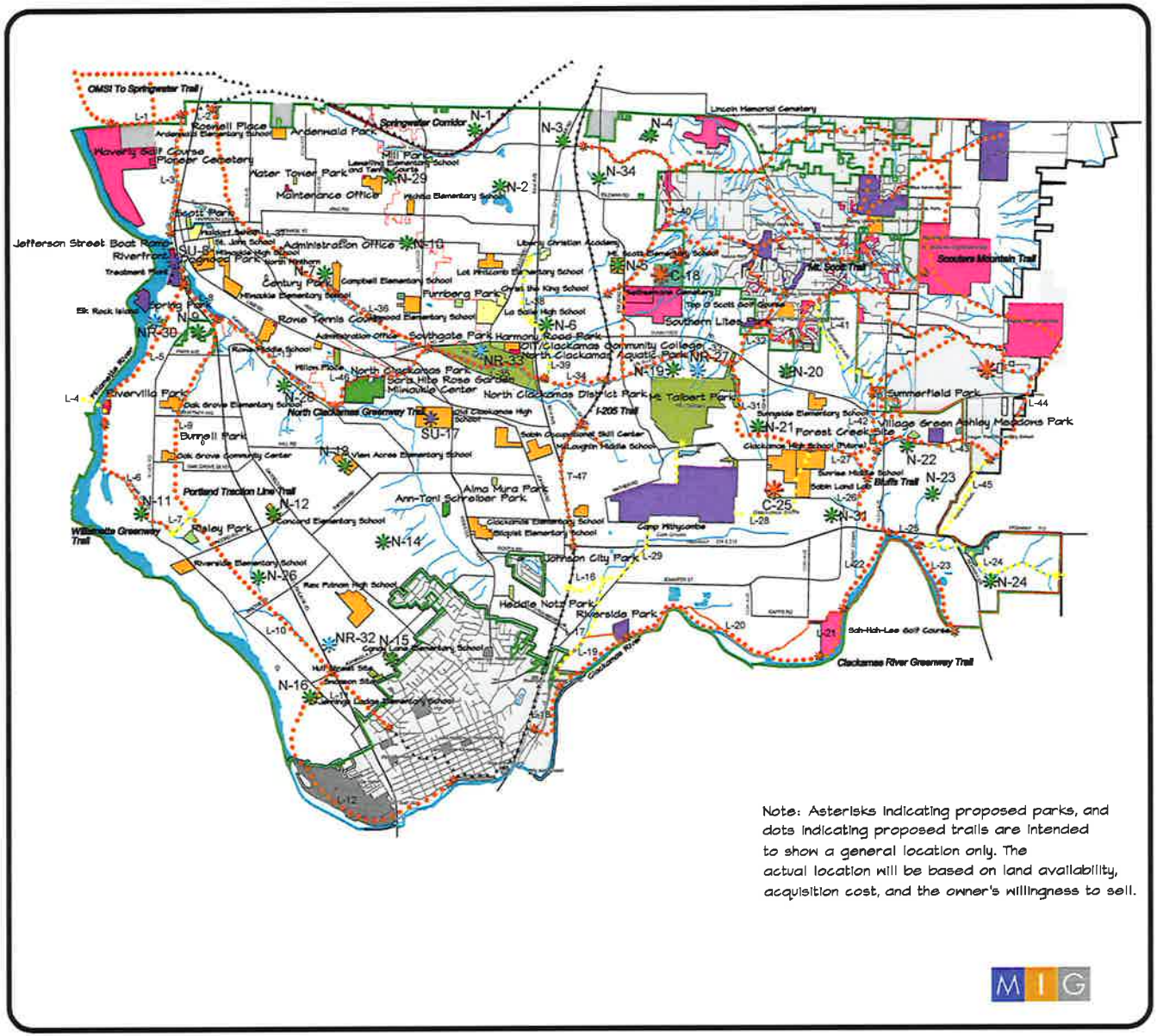
SE 162ND AVENUE COMMUNITY PARK

CONCEPTUAL MASTER PLAN

AUGUST 5, 2008

CLACKAMAS COUNTY

Harper Houf Peterson Righellis Inc.



Note: Asterisks indicating proposed parks, and dots indicating proposed trails are intended to show a general location only. The actual location will be based on land availability, acquisition cost, and the owner's willingness to sell.

MIG

North Clackamas Parks & Recreation District

Legend:

- Planning Area Boundary
- Park District Boundary
- Urban Growth Boundary
- Neighborhood Parks
- Community Parks
- Special Use Areas
- Natural Resource Area
- Undeveloped Parkland
- Miscellaneous Open Space
- Other Public Land
- Private Facilities
- Public Schools
- Private Schools
- Existing Multi-Use Trails
- Proposed Linear Park Segment (High Priority)
- Proposed Linear Park Segment (Very Long Term)
- C- Proposed Community Park
- N- Proposed Neighborhood Park
- SU- Proposed Special Use Facility
- NR- Proposed Natural Resource Area

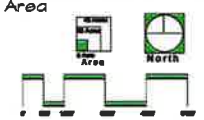


Figure 4.3
Facilities Plan
2002 Master Plan Update

Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
Jennifer Donnelly
Portland Regional Office
800 NE Oregon St, Suite 1145
M/S 18
Portland, OR 97232
jennifer.donnelly@state.or.us
(971) 673-0963
Web Address: http://www.oregon.gov/LCD

12 January 2009

RE: Happy Valley PAPA 011-08; plan and code amendments

Dear Michael,
Thank you for the opportunity to comment on the proposed plan and code amendments. Below are the Department of Land Conservation and Developments comments.

East Happy Valley Buildable Lands & Residential Capacity Analysis

1. The city is allowed to exceed Metro's target density, and Goal 14 requires it for urban efficiency, if the area can be developed at higher densities.
2. What is the basis for assuming that ½ of the R-15 and R-20 parcels will receive full density transfers?
3. What is the basis for assuming that "20% of the remaining transferable units generated by constrained and partially constrained land will be built"?

Comp plan amendments

1. Housing Element Policies: You might want to consider starting with a general policy that quotes Goal 10: "The City shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels that are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density." This is broader than the existing Policy 46.

2. Land Use Element Policies, Policy 51: Residential Districts:
   a. The R-15, R-20, and R-40 districts – particularly the latter 2 – are not consistent with Goal 14. We recognize that most of the existing development in Happy Valley is in these zones, but for future urban development to be more efficient, the City should consider doing 2 things:
      i. Prohibit the zoning of any new land in these districts; and
      ii. Plan for reasonable infill development in these very low-density zones over the 20-year planning period.

      For East Happy Valley, instead of applying these zones, revise the proposed density transfer system to use new districts designed for this area.
   b. The plan designations proposed are a bit misleading. While residents of Happy Valley may believe that 5,000 square foot lots are high density, and 7,000-10,000 square foot lots are medium density, in the Metro context these districts are low density.
   c. The following part of Policy 51A on p. 11 should be deleted: "These districts [R-15, R-20 & R-40] may be located where they are needed for compatibility with existing residential

EXHIBIT T

patterns." Higher density residential development can be compatible with existing development through other, more land-efficient means, such as transition standards for the new housing units that directly abut existing development, which, in fact, is included in the Happy Valley code.

3. Commercial & Employment Element Policies
   a. Policy 55E Industrial Campus: Delete "parks" and "education" from subsection 4); these uses are not appropriate in an industrial district; see more detailed comments regarding the code amendments below.
   b. Policy 56C.7, Balance of Urban Development and Rural Landscape Character Development: Happy Valley is an incorporated city within the urban growth boundary of the largest urban area of the state. While the statewide program allows existing commercial farm and forest operations to continue until the owner decides to redevelop the land for urban use, it isn't appropriate for the City to allow the development of new resource uses inside the UGB (see subsection a) of Policy 56C.7). This isn't consistent with Goal 14, which calls for the separation of urban and rural uses and requires efficient urban-level development within UGBs.
   c. Housekeeping change: In subsection e), "tenants" should be "tenets."

4. Goal 12, Policy 63: Since this policy covers state highways, it should reference ODOT regarding coordination.

Code amendments

1. General comment: Happy Valley is a small city, but it proposes many and complex residential, mixed use, commercial, and industrial districts that overlap in many ways. This may become confusing and may be difficult to administer for the city, developers, and neighbors, and it isn't necessary.

2. Section 16.44.060 Affordable Housing
   a. 16.44.060 C.1. The density bonus is restricted to multi-family, mixed-use, and commercial zones. The City may want to expand availability of the bonus.
   b. 16.44.060 F.1.a. One of the approval criteria for a density bonus is "the project would not be a hazard or nuisance to the city at large." It is a very broad. It appears to violate ORS 197.307(6) because it's not clear and objective and may discourage needed housing.

3. Ch. 16.22 Residential Land Use Districts
   a. Table 16.22.010-2: FU-10 Dev Stds: Why do minimum front and rear setbacks need to be 32 feet? These 32-foot-wide areas are not large enough to become new parcels through partition; the standard allows placement of dwellings on a lot in a manner that impedes efficient future division.
   b. 16.22.020: R-15, R-20 & R-40
      i. The "very" should be retained in "Very low density residential zones." (See comments about comp plan designations above.)
      ii. As mentioned in comp plan comments, these are not suitable urban zones. Amended text permits their use in Goal 7 constrained areas; the City's code should permit them ONLY in such areas, and only where professional geotechnical reports conclude that one of these zones is required.
      iii. The stated purposes of R-15 are "to maintain 'estate development' within the urban framework of the city," and as a buffer between R-20 and higher density residential zones. Neither of these is appropriate under Goal 14 and so new

development should be prohibited. As stated in an earlier comment, buffering between different densities can be accomplished through a transition density applied only to the units that directly abut the lower-density development.

c. 16.22.030: Medium density R-7, R-8.5 & R-10:
   i. As stated earlier, these zones are low density, not medium density.
   ii. In R-7, "all Level I services and facilities are necessary and required for development at full density."
   iii. Table 16.22.030-1 Permitted uses: Since land-intensive large –scale recreation facilities (golf courses, amusement parks, etc) are permitted in the R-15, R-20 & R-40 zones, they shouldn't be permitted to use needed residential land in R-7, R-8.5 & R-10, even as conditional uses.
   iv. Table 16.22.030-2 Dev Stds: Minimum front and rear setbacks of 22 feet are excessive for small-lot single-family and discourage efficient use of urban land.

d. 16.22.040 High density single family R-5 & MUR-S
   i. Using the term "high density: is misleading. It's true these zones allow the smallest detached housing in Happy Valley, but the densities are still in the low to medium category.
   ii. Table 6.22.040-1 Permitted uses:
      1. Neighborhood commercial uses are prohibited in R-5. This doesn't make sense – a single-family neighborhood is where such uses are needed to reduce the number and length of vehicle trips and make shopping, etc. more convenient for residents.
      2. Places of worship and schools are conditional uses. They should be permitted outright, since residential areas are the best location for them, close to the adults and children who use them. There are also potential RLUIPA issues; consult with the City Attorney.
      3. Since land-intensive large –scale recreation facilities (golf courses, amusement parks, etc) are permitted in the R-15, R-20 & R-40 zones, they shouldn't be permitted to use needed residential land in R-5 & MUR-S, even as conditional uses.

e. 16.022.050 High Density Residential-Attached SFA, MUR-A, VTH
   i. For MUR-A, "the density requirements and minimum/maximum lot sizes are meant as a guide." This doesn't make sense – requirements and guidelines are 2 different things.
   ii. The density ranges for these zones (SFA 10-15, MUR-A 10-12) are suitable for multi-family housing, but multi-family and condos with 4 or more units are prohibited.
   iii. Why is senior housing prohibited from these zones?
   iv. Why are neighborhood commercial uses prohibited in VTH?

f. 16.22.060 Mixed-Use Residential MUR-M & MUR-X
   i. Purpose: "The density requirements and minimum/maximum lot sizes are meant as a guide." This doesn't make sense – requirements and guidelines are 2 different things.
   ii. Table 16.22.060-1 Permitted uses:
      1. Why are accessory dwelling units prohibited? Other communities (e.g., Fairview) allow ADUs in multi-family areas.
      2. Since these zones "allow for retail uses that are meant to provide services to local residents, not attract outside traffic," hotels should not be a permitted (or conditional) use.
      3. There should be some type of size or area limit on retail uses to prevent big box stores and shopping centers in these zones.

4. Section 16.44.040 Manufactured Home Stds
    a. 16.22.040 G. prohibits carports. This is more restrictive than ORS 197.307(5)(f), which allows garages and carports, and therefore should be deleted.
    b. 16.22.040 J. requires 2 out of a list of design features for all manufactured homes. This isn't consistent with ORS 197.307, which allows only the listed development standards, and other standards or criteria only if they also apply to stick-built housing, and should therefore be deleted, unless there are code provisions that apply these standards to all single-family detached housing.
5. 16.44.045 Mobile home parks: Subsection B. applies all of the 16.44.040 manufactured home standards to mobile home parks. This is OK only for parks 3 acres or larger. For parks smaller than 3 acres, ORS 197.314(6) allows only 16.44.040D (roof pitch) and E (siding and roofing color, material & appearance).
6. 16.44.050 Accessory dwelling units: One of the criteria (#7) requires an additional parking space for the ADU if the primary dwelling has fewer than 4 on-site spaces. This is unnecessary, burdensome, and land-inefficient. Many cities don't require any additional parking for the ADU, and if they do require a space for it, it is in addition to the parking required for the primary residential use, 1 or spaces.

7. 16.44.010 Design stds for multi-family, duplex, triplex & single family attached
    a. The City's purpose for these standards is "to control development scale; avoid or minimize impacts associated with traffic, parking and design compatibility; and ensure management and maintenance of common areas" (16.44.010A), and "to encourage the development of multi-family and single-family attached residential buildings that are visually engaging and compatible with one another and with the surrounding district (16.44.010B). The City must achieve a balance between these local objectives and state policy in the needed housing statutes, ORS 197.295-197.314; in particular:

        A local government shall attach *only clear and objective approval standards* or special conditions *regulating,* in whole or in part, *appearance or aesthetics* to an application for development of needed housing or to a permit, as defined in ORS 215.402 or 227.160, for residential development. (ORS 197.307(3)(b).)

        Any approval standards, special conditions and the procedures for approval adopted by a local government *shall be clear and objective* and *may not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.* (ORS 197.307(6).)

    b. The following provisions are wholly or partially not clear and objective (*i.e.*, subjective and discretionary): A2, C1a, C2b, C2c, C4a ("as appropriate for the proposed building type and style"), C4a xiv, C4b, C9, C10, & C11.
    c. The following provisions, even if clear and objective, add to the cost of needed housing and therefore *may* have the effect of discouraging needed housing through unreasonable cost or delay: C2a, C3, C4, C5, C6, & C10.
    d. You may want to add the following criterion for administrative adjustments to the design standards as 16.44.010C.13.c: "The applicant demonstrates that compliance with one or more of these standards may have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay."

8. 16.12.020 Definitions
    a. Development: This definition does not include land divisions and consolidations. Just curious why.

b. Replace "families" with "households" in dwelling, dwelling single-family detached, dwelling two-family (duplex), and dwelling multiple family, consistent with the revised definition of "family," which refers the reader to the definition of "household."
c. Dwelling, attached duplex: I haven't seen this housing type before. Why is it a separate category from "multiple family dwelling"?
d. Dwelling multiple family senior housing: "Senior housing is allowed in multifamily zoning districts" is a standard and not a definition. "Senior housing" should instead be listed as a permitted use in the appropriate zones.
e. Household: This definition isn't consistent with state and federal law. The City may not define a household in terms of relationships, even though it is not using the word "family." It also may not limit the number of disabled persons unless the number of non-disabled persons has the same limit. I recommend revising this definition to: "One or more persons who live together in one dwelling unit." If the City wishes to establish a maximum number of people who may live in a dwelling unit, this should be in the zoning or development standards, not in the definitions.
f. Infill: Unless the definition of "development" is revised to include land divisions, the definition of "infill" should be revised to: "The development ***or division*** of vacant, bypassed lands located in an area that is mainly developed."
g. Add the ORS 446.003(22) definition of "manufactured dwelling," since this term is used in other definitions.
h. Mixed use building: Because it cannot be a single-use building, replace "may include" with "includes."
i. Mobile home: For consistency and to avoid confusion, use the definition in ORS 446.003(29).
j. Mobile home park: For consistency and to avoid confusion, use the definition in ORS 446.003(30).
k. Recreational vehicle park: Delete "See also 'mobile home park'". They are defined differently in state statute – see the definition of "mobile home park" in ORS 446.003.
l. Residential facility group care facility: Revise to make this definition consistent with ORS 443.400(5). Also, delete "or residential home/group care home" from the 3rd sentence – under state law, a residential *facility* is for 6-15 people; a residential *home* is for up to 5 people (as stated in the next definition, which is for "Residential home/group care home").
m. Residential home/group care home: Confirm this definition to the one in ORS Ch 443. Delete "This definition includes the State definition of Residential Home," since this term does not exist in state statute.
n. Residential trailer: Use the definition in ORS 446.003(34). This one is not correct.
o. Trailer (travel): The wrong statute is cited.
p. Travel trailer/recreational vehicle park/campground: Clarify that this use is not for permanent residence.

9. Ch 16.65 Master planned developments; 16.65.060D overlay zone & concept plan criteria, minimum of 20% useable open space. Since a PUD may be processed as a master planned development, you may want to clarify that this requirement is not in addition to the PUD 20% open space requirement.

10. 16.63.130 PUD
    a. 16.63.130 I. 2.(b)iii open space requires: "All open space areas shall be improved, preserved and maintained as natural areas." Use of the term "improved" doesn't make sense – why does a natural area have to be "improved"?

b. 16.63.130 I. 2.(b)v.(A)(2) & (7) and (B)(1) & (2) cite the Portland Plant List. Is this intentional, or did someone inadvertently fail to replace "Portland" with "Happy Valley"?

11. 16.24.010 Institutional & Public Use District
    a. Since the City provides this zone for uses such as houses of worship, schools, and parks, these uses should not be permitted – which they are – in other zones, where they use land needed for residential and employment uses.
    b. Table 16.24.010-1 Permitted uses, broadcast towers: The phrase starting with "provided that the base of such towers" is a standard and should be moved to the development standards section of the zone.
    c. Table 16.24.010-2 Development Stds, Residential Density: This should be deleted, since Table 16.24.010-1 no longer includes residential uses.

12. 16.23.010 Mixed Use Commercial & Employment Districts MUC, MUE & MUE –NC
    a. Table 16.23.010-1 Permitted uses
        i. Why are bookstores and video rental stores conditional uses instead of permitted outright in all 3 districts?
        ii. Drive-through restaurants: Should be permitted outright, not conditional, in MUE to provide meals for employees; should be prohibited in the MUE-NC.
        iii. Residential, medium and high density: Single use residential buildings should have a unit or size limit to preserve land need for commercial uses.
        iv. Institutional: As mentioned earlier, religious uses, parks and schools should not be permitted in these districts because (1) they use land needed for employment uses, and (2) they have a special Institutional and Public district of their own.

    b. 16.23.010 D. MUE-NC additional stds: D.1.b. Mixed Use Building. We recommend adding a requirement that the street front (the primary street where the site abuts more than 1 street) ground floor units of buildings in this zone be commercial uses – retail or office, to encourage development and viability of these uses.

13. 16.23.020 Village Commercial & Village Office Districts
    a. A.1. and 2. are identical.
    b. Table 16.23.020-1, Permitted uses:
        i. Why are most retail uses prohibited in Village Office? At least some of them (barber shop/salon, dry cleaner, office supplies, shoe repair, tailor, video rental, stationery store, bank teller, book store, confectionary store, florist, drugstore, health club, locksmith, optometrist, post office) would service office district employees and customers.
        ii. Why are banks a conditional use instead of permitted outright in both zones?

14. 16.23.030 Commercial Districts CCC (Community Comm.) & MCC (Mixed Comm.)

    a. Table 16.23.030-1 Permitted uses
        i. Why are video rental stores conditional instead of permitted outright?
        ii. Institutional: As mentioned earlier, religious uses, parks and schools should not be permitted in these districts because (1) they use land needed for employment uses, and (2) they have a special Institutional and Public district of their own.
    b. Tables 16.23.030-1 and 030-2: With only a *maximum* residential density specified, these districts appear to permit low density single-family detached housing, which is not appropriate for a commercial zone.

c. 16.23.0030 E.1. Design review: As mentioned above regarding multi-family and single-family attached design standards, the City should be careful in establishing design standards for needed housing in these zones so that there is no conflict with ORS 197.307.

15. 16.25.005 Rock Creek Mixed Employment RC-MUE

a. Table 16.25.005-1 Permitted uses:
   i. Assisted living facilities: These should also be permitted in residential zones.
   ii. Institutional: As mentioned before, there is a special zone for schools, parks and religious uses, so they shouldn't be using land needed for industrial uses.
   iii. Medical centers should be in a commercial zone; they are a land-intensive use that shouldn't be allowed to convert needed industrial land.

16. Industrial Districts EC & IC

a. Table 16.25.010-1 Permitted uses
   i. Commercial day care: Why isn't this use permitted outright in both zones for industrial employees?
   ii. Hotels, commercial outdoor recreation, major event entertainment should be deleted. They are land-intensive commercial uses that belong in commercial zones and shouldn't be allowed to convert needed industrial land.
   iii. Institutional: Except for "educational institutes or trade schools," there is a special zone for schools, parks, religious uses, and other public uses, so they shouldn't be using land needed for industrial uses.

Goal 9 Comments:
Why are hotels and residential hotels Permitted in the Industrial Campus zone (IC)? This use is also allowed outright in the Mixed Commercial Center (MCC) and as a Conditional use in the Community Commercial Center (CCC) and Employment Center (EC). Looking at the Plan Map, the (IC) zone is in close proximity to the (CCC) and (EC) zones; not sure why this would be an allowed use in an Industrial zone, more importantly because it is not an industrial use.

According to Goal 9 660-009-005 (3) "Industrial Use" means employment activities generating income from the production, handling or distribution of goods. Industrial uses include, but are not limited to: manufacturing; assembly; fabrication; processing; storage; logistics; warehousing; importation; distribution and transshipment; and research and development. Industrial uses may have unique land, infrastructure, energy, and transportation requirements. Industrial uses may have external impacts on surrounding uses and may cluster in traditional or new industrial areas where they are segregated from other non-industrial activities.

Goal 5 Comments:
The PAPA complies with Goal 5. The department suggests that the city clarify that they have a Goal 5 program in place to protect the significant wetlands identifies in the LWI. The easiest way to do this is to state in the comp plan that the city chooses the safe harbor approach to protecting significant wetlands and that these measures area already incorporated into measures adopted to comply with Metro's Title 3 and 13.

Thank you again for the opportunity to review these documents. Please enter this letter into the record for proceedings on the Comprehensive Plan, supporting documents and zoning code. If additional comments are submitted to the record, DLCD respectfully requests that the record be

held open for an additional seven days to enable department staff to review the material and/or provide comment.

Respectfully,

Jennifer Donnelly
Metro Regional Representative
Department of Land Conservation and Development

CC: Darren Nichols, Division Manager
Gloria Gardiner, Urban Planning Specialist
Thomas Hogue, Economic Development Policy Analyst
Amanda Punton, Natural Resource Specialist

Mayor
Honorable Rob Wheeler

City of Happy Valley

City Manager
Catherin L. Daw

January 18, 2009

Oregon Department of Conservation & Development
Attn: Jennifer Donnelly, Metro Regional Representative
Portland Regional Office
800 NE Oregon Street, Suite 1145
M/S 18
Portland, OR 97232

Jennifer,

Thank you for your comments and suggestions related to Happy Valley's proposed comprehensive plan and code amendments (City of Happy Valley File CPA-01-09 and File LDO-01-09 respectively). Your thoughtful and detailed comments suggest that you thoroughly reviewed the proposed amendments and your participation in helping improve the City's policy and regulatory documents is appreciated.

A response to each of the questions and suggestions included in the January 12, 2009 memorandum you sent is included as an attachment to this letter. Where modifications have been made in response to your memorandum, this attachment documents for the record how the City's proposed amendments to both the Comprehensive Plan and the Land Development Code (LDC) have been modified based on your recommendations.

Some of your suggested changes have not been made to the hearing drafts of the proposed amendments. In most cases, this is due to the fact that the suggested changes address issues with existing (not proposed) code language and would result in policy changes that the code reorganization project did not anticipate. The steps leading up to the current proposed amendments began in 2006 with a state Transportation and Growth Management (TGM) grant to completely revise the LDC. The focus of the grant work was to integrate and update current city code language with the state's Model Development Code & User's Guide for Small Cities (2005). While significant changes were made as a result of reformatting the code, the reorganization was largely policy neutral, with the City's existing standards reformatted for ease of use and internal consistency. This first phase was completed in June of 2007.

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EXHIBIT U

The City picked up where the TGM work left off in the fall of 2007, working on proposed refinements and additions to the draft produced as a result of the earlier work. This next phase of code revisions concentrated on the following:

- ensuring that code language is readable and user-friendly
- further revising code language to ensure that standards and procedures are appropriate for the city
- crafting of new zones in compliance with the East Happy Valley Comprehensive Plan
- integrating and incorporating changes to the city's existing steep slopes overlay;
- updating code language to be compliant with Metro Title 13
- checking the revised code language for internal consistency

Again, the emphasis of the project that resulted in the proposed LDC amendments was on reorganization, consistency, and clarity. Policy changes are principally associated with new Chapters 16.32 Steep Slopes Development Overlay Zone and 16.34 Natural Resources Overlay Zone and new (or revised) zones developed to address newly incorporated lands within East Happy Valley.

Many of the comments that are not reflected in the current LDC amendments are valid and important to address, but will need to be considered as part of a future code amendment process. Most of these issues will require a larger, community-wide policy discussion and a fresh look at existing standards. City staff looks forward to working with you in the future on a planning program, possibly as part of Periodic Review with the State, that will address outstanding issues and help strengthen and improve the LDC.

Sincerely,

Michael D. Walter, AICP
Planning Director

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Response to DLCD January 12, 2008 Memorandum, Happy Valley PAPA 011-08

January 19, 2009

East Happy Valley Buildable Lands & Residential Capacity Analysis

1. ***The city is allowed to exceed Metro's target density, and Goal 14 requires it for urban efficiency, if the area can be developed at higher densities.***

   Response: The overall target density (9.18 per net residential acre) is one metric within a larger policy construct for urban form and livability in EHV. The 9.18 du/ac should be viewed in the following context:

   - The EHV map and policies provide a density gradient. The highest densities are in the most buildable lands along the 172nd Ave. corridor. The high densities close to 172nd transition to lower densities near the creek and bluff resource areas. Scouter's Mountain's densities are regulated by classifying transition areas (15-25% slope) were cluster development is required and conservation areas (25%+ slope) where development is very limited.
   - The 172nd corridor area averages to about 13.73 du/ac.[1] It is organized into a pattern of mixed use centers and higher density nodes, with residential densities ranging from about 15 to 34 du/acre. The neighborhoods adjacent to the mixed use and higher density nodes provide a variety of zone districts (in a gradient) to support the City's policy for housing variety. This pattern is intended to provide transit oriented densities and uses for future transit along 172nd Avenue and Sunnyside Road.

---

[1] To estimate the average density along the 172nd Avenue Corridor, the R-20, R-15, and R-10 designated lands to the west of the existing 162nd Avenue and the proposed 162nd connection around the base of Scouter's Mountain were removed from the EHV residential capacity calculations. The residential capacity for the remaining lands results in an average density of 13.73 dwelling units per net buildable acre (3,889 dwelling units on 283.32 net buildable residential acres). To remain consistent, this average density estimate includes the assumption that 20 percent of the units from protected sensitive areas will be transferred to buildable lands.

2. ***What is the basis for assuming that ½ of the R-15 and R-20 parcels will receive full density transfers?***

Response: This is an estimate based on looking at how the parcel and ownership pattern overlays slope on Scouter's Mountain. Many of the parcels have lesser sloped portions at the the base of the mountain or on top. Therefore, these properties will have the ability to transfer units from on-site protected sensitive resources to buildable portions of the site. Further, public comment submitted by developers and land owners during the EHV comprehensive planning process concerned increases to the preliminary zoned densities and the transfer of density from protected sensitive resources under the regulation of the draft Steep Slopes Development Overlay (SSDO). From the comments received, it appears many property owners will choose to transfer density. At full density transfer in these zones, each property's maximum density would reach 175% of the base zone density through the transfer of units generated in protected sensitive resource areas to buildable portions of the site. The assumption is that 50% of the full transfer will take place. So this can be stated two ways, either one-half of all parcels will receive full density transfer, or all parcels will receive one-half of the additional density the parcel can accommodate through transfer. In the calculations, each parcel's maximum density is increased to 137.5% of the base zone.

3. ***What is the basis for assuming that "20% of the remaining transferable units generated by constrained and partially constrained land will be built"?***

Response: This starting point of this assumption is that developers will wish to utilize as much of the development potential as can be rationally used, due to the high cost of land. The 20% is intended to represent a conservative utilization of development potential.

Comp plan amendments

1. ***Housing Element Policies: You might want to consider starting with a general policy that quotes Goal 10: "The City shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels that are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density." This is broader than the existing Policy 46.***

Response: The goal language is incorporated within the Draft Comprehensive Plan Amendments.

2. ***Land Use Element Policies, Policy 51: Residential Districts:***

    a. ***The R-15, R-20, and R-40 districts – particularly the latter 2 – are not consistent with Goal 14. We recognize that most of the existing development in Happy Valley is in these zones, but for future urban development to be more efficient, the City should consider doing 2 things:***
        i. ***Prohibit the zoning of any new land in these districts; and***
        ii. ***Plan for reasonable infill development in these very low-density zones over the 20-year planning period.***

    For East Happy Valley, instead of applying these zones, revise the proposed density transfer system to use new districts designed for this area.

Response: For the sloped and resource areas, the city has chosen to use low density zoning, in combination with the SSDO, NRO and Planned Development review. These tools will guide incremental development and preserve open space over the long term.

The R-40 designation is not applied to land within the EHVCP area. The application of the Low Density Residential Districts (R-20 and R-15) in the EHVCP Map is part of a larger policy approach intended to enhance sensitive resource protection, while providing for low impact development. A comparison of the EHVCP Map with the *Happy Valley Steep Slopes and Natural Resource Overlay Zones Map* demonstrates the connection between the application of the R-15 and R-20 zoned land in EHV and the location of sensitive resource areas, principally Scouter's Mountain. The R-20 district is generally applied to the riparian corridors and steeply sloped sides of Scouter's Mountain, while the R-15 district is generally applied to the flatter top of the mountain. As designated in the EHVCP Map, 91.3 percent of the vacant and redevelopable land (as defined in the *East Happy Valley Buildable Lands and Residential Capacity Analysis*) in the R-20 district contains protected sensitive resources, with only 8.7 percent as gross buildable land. The Steep Slopes

Development Overlay (SSDO) and the Natural Resource Overlay Zone (NROZ) are applicable to the majority of land within the R-15 and R-20 zones. Sensitive resource areas protected by these overlays are indicated in the *Happy Valley Steep Slopes and Natural Resource Overlay Zones Map*. The overlays allow for the transfer of density from protected areas to unconstrained areas and buildable portions of the protected areas as defined in Chapter 16.63 of the Happy Valley Land Development Code.

For the top of Scouter's Mountain, the City has conducted a thorough visual, density and traffic impact analysis for the area in response to developer comments and proposals during EHV Plan Map process. Those studies concluded that Scouter's Mountain is very constrained with respect to transportation access. The proposed R-15, in combination with density transfer from sloped areas, will result in an estimated 750 dwellings on top of the Mountain. This density is at the limit of what the streets shown in the TSP can handle.

b. The plan designations proposed are a bit misleading. While residents of Happy Valley may believe that 5,000 square foot lots are high density, and 7,000-10,000 square foot lots are medium density, in the Metro context these districts are low density.

Response: The "Low density residential zones" (16.22.020) is a heading consistent with Happy Valley's exiting categorization for R-20 and was used as a general group heading for this (reorganized) section, which includes R-40, R-20 and R-15. Revisiting the names of plan designations was not part of the code reorganization project.

c. The following part of Policy 51A on p. 11 should be deleted: "These districts [R-15, R-20 & R-40] may be located where they are needed for compatibility with existing residential patterns." Higher density residential development can be compatible with existing development through other, more land-efficient means, such as transition standards for the new housing units that directly abut existing development, which, in fact, is included in the Happy Valley code.

Response: The goal language has been amended within the Draft Comprehensive Plan Amendments to reflect this comment.

3. Commercial & Employment Element Policies

a. Policy 55E Industrial Campus: Delete "parks" and "education" from subsection 4); these uses are not appropriate in an industrial district; see more detailed comments regarding the code amendments below.

Response: The inclusion of these uses is necessary due to the fact that they already exist in the geographic region proposed to be encumbered with the IC designation/zone. In addition, in response to an approach by the City of designating/zoning these areas as Institutional Public Use (IPU) within the EHVCP, the Metro Council specifically recommended against such action.

b. Policy 56C.7, Balance of Urban Development and Rural Landscape Character Development: Happy Valley is an incorporated city within the urban growth boundary of the largest urban area of the state. While the statewide program allows existing commercial farm and forest operations to continue until the owner decides to redevelop the land for urban use, it isn't appropriate for the City to allow the development of new resource uses inside the UGB (see subsection a) of Policy 56C.7). This isn't consistent with Goal 14, which calls for the separation of urban and rural uses and requires efficient urban-level development within UGBs.

Response: The goal language has been amended within the Draft Comprehensive Plan Amendments to reflect this comment.

c. Housekeeping change: In subsection e), "tenants" should be "tenets."

Response: Amended within the Draft Comprehensive Plan Amendments.

4. Goal 12, Policy 63: Since this policy covers state highways, it should reference ODOT regarding coordination.

Response: Amended within the Draft Comprehensive Plan Amendments.

Code amendments

1. ***General comment:*** ***Happy Valley is a small city, but it proposes many and complex residential, mixed use, commercial, and industrial districts that overlap in many ways. This may become confusing and may be difficult to administer for the city, developers, and neighbors, and it isn't necessary.***

Response: The City of Happy Valley is a rapidly growing and expanding City, which has expanded primarily via annexation of surrounding areas, inclusive of existing Clackamas County Plans (for example, the Sunnyside Village Neo-Traditional Plan), and the development of "specific area Comprehensive Plans" such as the Rock Creek Comprehensive Plan. This "piecemeal" annexation and development pattern has resulted in the broad range of proposed zones, which will expand even farther with the "palette" of zones that the EHVCP area proposes. Consolidating and legislatively amending (Comprehensive Plan Map/Zone Map amendments) all of the various zones within the City to a "smaller palette" may be possible, but would not occur prior to Periodic Review.

2. ***Section 16.44.060 Affordable Housing***

   a. ***16.44.060 C.1. The density bonus is restricted to multi-family, mixed-use, and commercial zones. The City may want to expand availability of the bonus.***

Response: Revising this existing code section was not part of the code reorganization project. Staff recommends reviewing the City's existing policies and standards as part of a future planning effort.

   b. ***16.44.060 F.1.a. One of the approval criteria for a density bonus is "the project would not be a hazard or nuisance to the city at large." It is a very broad. It appears to violate ORS 197.307(6) because it's not clear and objective and may discourage needed housing.***

Response: Revising this existing code section was not part of the code reorganization project. Staff recommends reviewing these standards to ensure they are clear and objective as part of a future planning effort.

3. ***Ch. 16.22 Residential Land Use Districts***

   a. ***Table 16.22.010-2: FU-10 Dev Stds: Why do minimum front and rear setbacks need to be 32 feet? These 32-foot-wide areas are not large enough to become new parcels through partition; the standard allows placement of dwellings on a lot in a manner that impedes efficient future division.***

b. ***16.22.020: R-15, R-20 & R-40***
   i. ***The "very" should be retained in "Very low density residential zones." (See comments about comp plan designations above.)***
   ii. ***As mentioned in comp plan comments, these are not suitable urban zones. Amended text permits their use in Goal 7 constrained areas; the City's code should permit them ONLY in such areas, and only where professional geotechnical reports conclude that one of these zones is required.***
   iii. ***The stated purposes of R-15 are "to maintain 'estate development' within the urban framework of the city," and as a buffer between R-20 and higher density residential zones. Neither of these is appropriate under Goal 14 and so new development should be prohibited. As stated in an earlier comment, buffering between different densities can be accomplished through a transition density applied only to the units that directly abut the lower-density development.***
c. ***16.22.030: Medium density R-7, R-8.5 & R-10:***
   i. ***As stated earlier, these zones are low density, not medium density.***
   ii. ***In R-7, "all Level I services and facilities are necessary and required for development at full density."***
   iii. ***Table 16.22.030-1 Permitted uses: Since land-intensive large –scale recreation facilities (golf courses, amusement parks, etc) are permitted in the R-15, R-20 & R-40 zones, they shouldn't be permitted to use needed residential land in R-7, R-8.5 & R-10, even as conditional uses.***
   iv. ***Table 16.22.030-2 Dev Stds: Minimum front and rear setbacks of 22 feet are excessive for small-lot single-family and discourage efficient use of urban land.***
d. ***16.22.040 High density single family R-5 & MUR-S***
   i. ***Using the term "high density: is misleading. It's true these zones allow the smallest detached housing in Happy Valley, but the densities are still in the low to medium category.***
   ii. ***Table 6.22.040-1 Permitted uses:***
      1. ***Neighborhood commercial uses are prohibited in R-5. This doesn't make sense – a single-family neighborhood is where such uses are needed to reduce the number and length of vehicle trips and make shopping, etc. more convenient for residents.***

2. ***Places of worship and schools are conditional uses. They should be permitted outright, since residential areas are the best location for them, close to the adults and children who use them. There are also potential RLUIPA issues; consult with the City Attorney.***
3. ***Since land-intensive large –scale recreation facilities (golf courses, amusement parks, etc) are permitted in the R-15, R-20 & R-40 zones, they shouldn't be permitted to use needed residential land in R-5 & MUR-S, even as conditional uses.***

e. ***16.022.050 High Density Residential-Attached SFA, MUR-A, VTH***
   i. ***For MUR-A, "the density requirements and minimum/maximum lot sizes are meant as a guide." This doesn't make sense – requirements and guidelines are 2 different things.***
   ii. ***The density ranges for these zones (SFA 10-15, MUR-A 10-12) are suitable for multi-family housing, but multi-family and condos with 4 or more units are prohibited.***
   iii. ***Why is senior housing prohibited from these zones?***
   iv. ***Why are neighborhood commercial uses prohibited in VTH?***

f. ***16.22.060 Mixed-Use Residential MUR-M & MUR-X***
   i. ***Purpose: "The density requirements and minimum/maximum lot sizes are meant as a guide." This doesn't make sense – requirements and guidelines are 2 different things.***
   ii. ***Table 16.22.060-1 Permitted uses:***
      1. ***Why are accessory dwelling units prohibited? Other communities (e.g., Fairview) allow ADUs in multi-family areas.***
      2. ***Since these zones "allow for retail uses that are meant to provide services to local residents, not attract outside traffic," hotels should not be a permitted (or conditional) use.***
      3. ***There should be some type of size or area limit on retail uses to prevent big box stores and shopping centers in these zones.***

Response: These are existing Happy Valley land use districts; the code reorganization project reorganized the districts, as well as consolidated the allowed uses and standards into tables, consistent with existing code language. The classification of the zone districts under "low," "medium," or "high" density mirrors existing code language and changing the nomenclature was not part of the project. In addition, the High Density Residential-Attached districts include standards that were

inherited from Clackamas County. Staff recognizes that Happy Valley's current classifications may be inconsistent with how other Metro area jurisdictions organize their zone districts and recommends reviewing the land use district names and classifications as part of a future planning effort.

4. ***Section 16.44.040 Manufactured Home Stds***
   a. ***16.22.040 G. prohibits carports. This is more restrictive than ORS 197.307(5)(f), which allows garages and carports, and therefore should be deleted.***

Response: Happy Valley's existing language is consistent with ORS 197.307. The existing code language states:

> "The manufactured home, except for those manufactured homes located in an FU-10 zone, shall have a garage constructed with exterior materials matching the manufactured home's exterior material. Carports are not allowed because garages are consistent with the predominant construction of immediately surrounding dwellings in all residential zoning districts in the city (16.44.040.G)."

This existing code language mirrors that in 197.307(5)(f), which states "The manufactured home shall have a garage or carport constructed of like materials. A jurisdiction may require an attached or detached garage in lieu of a carport where such is consistent with the predominant construction of immediately surrounding dwellings."

   b. ***16.22.040 J. requires 2 out of a list of design features for all manufactured homes. This isn't consistent with ORS 197.307, which allows only the listed development standards, and other standards or criteria only if they also apply to stick-built housing, and should therefore be deleted, unless there are code provisions I didn't see that apply these standards to all single-family detached housing.***

Response: In order to be consistent with ORS 197.307(5), staff has deleted Subsection 16.22.040.J and has eliminated the requirement that manufactured homes incorporate certain design features.

5. ***16.44.045 Mobile home parks: Subsection B. applies all of the 16.44.040 manufactured home standards to mobile home parks. This is OK only for parks 3 acres or larger. For parks smaller than 3 acres, ORS 197.314(6) allows only 16.44.040D (roof pitch) and E (siding and roofing color, material & appearance).***

Response: In order to be consistent with ORS 197.307(5), staff has revised 16.44.045 to distinguish which requirements apply to mobile home parks 3 acres and larger and those that apply to parks smaller than three acres.

6. ***16.44.050 Accessory dwelling units: One of the criteria (#7) requires an additional parking space for the ADU if the primary dwelling has fewer than 4 on-site spaces. This is unnecessary, burdensome, and land-inefficient. Many cities don't require any additional parking for the ADU, and if they do require a space for it, it is in addition to the parking required for the primary residential use, 1 or spaces.***

Response: Revising this existing code section was not part of the code reorganization project. Staff recommends reviewing this parking standard as part of a future planning effort.

7. ***16.44.010 Design stds for multi-family, duplex, triplex & single family attached***

    a. ***The City's purpose for these standards is "to control development scale; avoid or minimize impacts associated with traffic, parking and design compatibility; and ensure management and maintenance of common areas" (16.44.010A), and "to encourage the development of multi-family and single-family attached residential buildings that are visually engaging and compatible with one another and with the surrounding district (16.44.010B). The City must achieve a balance between these local objectives and state policy in the needed housing statutes, ORS 197.295-197.314; in particular:***

    A local government shall attach only clear and objective approval standards or special conditions regulating, in whole or in part, appearance or aesthetics to an application for development of needed housing or to a permit, as defined in ORS 215.402 or 227.160, for residential development. (ORS 197.307(3)(b).)

    Any approval standards, special conditions and the procedures for approval adopted by a local government shall be clear and objective and may not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay. (ORS 197.307(6).)

    b. ***The following provisions are wholly or partially not clear and objective (i.e., subjective and discretionary): A2, C1a, C2b, C2c, C4a ("as appropriate for the proposed building type and style"), C4a xiv, C4b, C9, C10, & C11.***

c. ***The following provisions, even if clear and objective, add to the cost of needed housing and therefore may have the effect of discouraging needed housing through unreasonable cost or delay: C2a, C3, C4, C5, C6, & C10.***
d. ***You may want to add the following criterion for administrative adjustments to the design standards as 16.44.010C.13.c: "The applicant demonstrates that compliance with one or more of these standards may have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay."***

Response: Revising this existing code section was not part of the code reorganization project. Staff recommends reviewing these standards to ensure they are clear and objective as part of a future planning effort.

8. 16.12.020 Definitions

a. ***Development: This definition does not include land divisions and consolidations. Just curious why.***

Response: The amendments to this definition are based on the Model Development Code. The revised definition focus on physical improvements, not land use actions, to define "development."

b. ***Replace "families" with "households" in dwelling, dwelling single-family detached, dwelling two-family (duplex), and dwelling multiple family, consistent with the revised definition of "family," which refers the reader to the definition of "household."***

Response: Due to the fact that the proposed amendments cross reference the definition "family" with "household," staff does not feel this change is necessary.

c. ***Dwelling, attached duplex: I haven't seen this housing type before. Why is it a separate category from "multiple family dwelling"?***

Response: This definition describes a situation where there are two separate tax lots, each with a duplex, and the two duplex buildings are attached at the lot line.

d. ***Dwelling multiple family senior housing: "Senior housing is allowed in multifamily zoning districts" is a standard and not a definition. "Senior housing" should instead be listed as a permitted use in the appropriate zones.***

Response: Staff has removed the standard from this definition.

e. ***Household:*** ***This definition isn't consistent with state and federal law. The City may not define a household in terms of relationships, even though it is not using the word "family." It also may not limit the number of disabled persons unless the number of non-disabled persons has the same limit. I recommend revising this definition to: "One or more persons who live together in one dwelling unit." If the City wishes to establish a maximum number of people who may live in a dwelling unit, this should be in the zoning or development standards, not in the definitions.***

Response: The proposed definition for "Household" is from the Model Development Code. If this definition is no longer recommended or accurate, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions.

f. ***Infill:*** ***Unless the definition of "development" is revised to include land divisions, the definition of "infill" should be revised to: "The development or division of vacant, bypassed lands located in an area that is mainly developed."***

Response: Staff has included "or division" in the definition of "Infill." definition. (Note: This definition is from the Model Code.)

g. ***Add the ORS 446.003(22) definition of "manufactured dwelling," since this term is used in other definitions.***

Response: There is an existing definition for "manufactured home" that is consistent with OAR 446.003(22). "Manufactured dwelling" is not used in the code text and has been replaced with "manufactured home" in the text of the definitions.

h. ***Mixed use building:*** ***Because it cannot be a single-use building, replace "may include" with "includes."***

Response: Staff has made this suggested amendment.

i. ***Mobile home:*** ***For consistency and to avoid confusion, use the definition in ORS 446.003(29).***

Response: The proposed definition for "Mobile Home" is from the Model Development Code. If this definition is no longer recommended, and the ORS definition should replace it, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions.

j. Mobile home park: For consistency and to avoid confusion, use the definition in ORS 446.003(30).

Response: The proposed definition for "Mobile home park" is from the Model Development Code. If this definition is no longer recommended, and the ORS definition should replace it, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions.

k. Recreational vehicle park: Delete "See also 'mobile home park'". They are defined differently in state statute – see the definition of "mobile home park" in ORS 446.003.

Response: The proposed definition for "Recreational vehicle park" is from the Model Development Code. If this definition is no longer recommended, and the ORS definition should replace it, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions.

l. Residential facility group care facility: Revise to make this definition consistent with ORS 443.400(5). Also, delete "or residential home/group care home" from the 3rd sentence – under state law, a residential facility is for 6-15 people; a residential home is for up to 5 people (as stated in the next definition, which is for "Residential home/group care home").

Response: Staff has made the suggested deletion. With the deletion, the proposed definition for "Recreational facility/group care facility" is consistent with the Model Development Code. If this definition is no longer recommended, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions.

m. Residential home/group care home: Confirm this definition to the one in ORS Ch 443. Delete "This definition includes the State definition of Residential Home," since this term does not exist in state statute.

Response: The proposed definition for "Residential home/group care home" is from the Model Development Code. If this definition is no longer recommended, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions. Also, "residential home" is defined in ORS 197.660.

n. Residential trailer: Use the definition in ORS 446.003(34). This one is not correct.

Response: The proposed definition for "Residential trailer" is from the Model Development Code. If this definition is no longer recommended, the City will consider revising upon further recommendation from DLCD, either as part of this code amendment process or as part of a future assessment of possible code revisions. (Note: The term "residential trailer" is only used in the definitions section and is not found elsewhere in the LDC.)

o. ***Trailer (travel): The wrong statute is cited.***

Response: The ORS citation has been removed. (Note: This definition is from the Model Code, which includes the incorrect citation.)

p. ***Travel trailer/recreational vehicle park/campground: Clarify that this use is not for permanent residence.***

Response: Staff has added "for a stay of limited duration" to this definition. (Note: This definition is from the Model Code.)

9. ***Ch 16.65 Master planned developments; 16.65.060D overlay zone & concept plan criteria, minimum of 20% useable open space. Since a PUD may be processed as a master planned development, you may want to clarify that this requirement is not in addition to the PUD 20% open space requirement.***

Response: Staff has added "This requirement may be satisfied by 16.63.130, if part of a Planned Unit Development."

10. 16.63.130 PUD

a. ***16.63.130 I. 2.(b)iii open space requires: "All open space areas shall be improved, preserved and maintained as natural areas." Use of the term "improved" doesn't make sense – why does a natural area have to be "improved"?***

Response: Staff has replaced the word "improved" with "enhanced."

b. ***16.63.130 I. 2.(b)v.(A)(2) & (7) and (B)(1) & (2) cite the Portland Plant List. Is this intentional, or did someone inadvertently fail to replace "Portland" with "Happy Valley"?***

Response: The original intent was to adopt the City of Portland's plant list by reference; the City is now proposing to adopt its own plant list, modeled on the Portland Plant List. The hearing draft of the revised LDC includes Appendix A Happy Valley Plant list and all references have been changed.

11. 16.24.010 Institutional & Public Use District

a. Since the City provides this zone for uses such as houses of worship, schools, and parks, these uses should not be permitted – which they are – in other zones, where they use land needed for residential and employment uses.

Response: Revising permitted uses in existing land use districts was not part of the code reorganization project. Staff recommends reviewing the inclusion of specific uses in various land use districts as part of a future planning effort.

b. Table 16.24.010-1 Permitted uses, broadcast towers: The phrase starting with "provided that the base of such towers" is a standard and should be moved to the development standards section of the zone.

Response: The standard has been removed from the use list and included in a note to the table.

c. Table 16.24.010-2 Development Stds, Residential Density: This should be deleted, since Table 16.24.010-1 no longer includes residential uses.

Response: Staff has deleted the residential density standard.

12. 16.23.010 Mixed Use Commercial & Employment Districts MUC, MUE & MUE –NC

a. Table 16.23.010-1 Permitted uses

i. Why are bookstores and video rental stores conditional uses instead of permitted outright in all 3 districts?

ii. Drive-through restaurants: Should be permitted outright, not conditional, in MUE to provide meals for employees; should be prohibited in the MUE-NC.

iii. Residential, medium and high density: Single use residential buildings should have a unit or size limit to preserve land need for commercial uses.

iv. Institutional: As mentioned earlier, religious uses, parks and schools should not be permitted in these districts because (1) they use land needed for employment uses, and (2) they have a special Institutional and Public district of their own.

Response: Revising permitted uses in existing land use districts was not part of the code reorganization project. Staff recommends reviewing the permitted uses table for these land use districts as part of a future planning effort.

b. 16.23.010 D. MUE-NC additional stds: D.1.b. Mixed Use Building. We recommend adding a requirement that the street front (the primary street where the site abuts more than 1 street) ground floor units of buildings in this zone be commercial uses – retail or office, to encourage development and viability of these uses.

Response: Reviewing the standards in existing land use districts was not part of the code reorganization project. Staff recommends exploring the addition of this requirement for the MUE-NC as part of a future planning effort.

13. 16.23.020 Village Commercial & Village Office Districts

a. A.1. and 2. are identical.

b. Table 16.23.020-1, Permitted uses:

i. Why are most retail uses prohibited in Village Office? At least some of them (barber shop/salon, dry cleaner, office supplies, shoe repair, tailor, video rental, stationery store, bank teller, book store, confectionary store, florist, drugstore, health club, locksmith, optometrist, post office) would service office district employees and customers.

ii. Why are banks a conditional use instead of permitted outright in both zones?

Response: The Village Office district is modeled on the City's existing General Commercial zone and the Village Office is an existing zone. Revising permitted uses in existing land use districts was not part of the code reorganization project. Staff recommends reviewing the inclusion of specific uses in the VC and VO land use districts as part of a future planning effort.

14. 16.23.030 Commercial Districts CCC (Community Comm.) & MCC (Mixed Comm.)

a. Table 16.23.030-1 Permitted uses

i. Why are video rental stores conditional instead of permitted outright?

ii. Institutional: As mentioned earlier, religious uses, parks and schools should not be permitted in these districts because (1) they use land needed for employment uses, and (2) they have a special Institutional and Public district of their own.

Response: The CCC and MCC are based on existing Happy Valley Community Commercial and General Commercial, respectively. (Generally, where a permitted, conditional or prohibited designation appears as "new" it is due to the fact that the

existing zone was silent regarding the particular use and the restructuring into a use table required a designation for consistency.) Revising permitted uses in existing land use districts was not part of the code reorganization project. Staff recommends reviewing the use table for CCC and MCC as part of a future planning effort.

b. Tables 16.23.030-1 and 030-2: With only a maximum residential density specified, these districts appear to permit low density single-family detached housing, which is not appropriate for a commercial zone.

Response: To correct the ambiguity of the residential density requirement, Table 16.23.030-2 has been modified to indicate that the density range shown is a minimum and maximum. Also, the maximum density has been increased in the CCC and the minimum and density increased in the MCC in order to be more consistent with the housing type allowed in the districts.

c. 16.23.0030 E.1. Design review: As mentioned above regarding multi-family and single-family attached design standards, the City should be careful in establishing design standards for needed housing in these zones so that there is no conflict with ORS 197.307.

Response: Procedures and standards required pursuant to 16.23.030 are the same or similar to existing code language and currently apply to development in the General Commercial zone district. The code reorganization project did not review these standards, as applied to the reorganized CCC and MCC districts. Staff recommends examining the requirements for development in these districts, in particular mixed use developments that include housing, as part of a future planning effort.

15. 16.25.005 Rock Creek Mixed Employment RC-MUE

a. Table 16.25.005-1 Permitted uses:

- ***i. Assisted living facilities: These should also be permitted in residential zones.***
- ***ii. Institutional: As mentioned before, there is a special zone for schools, parks and religious uses, so they shouldn't be using land needed for industrial uses.***
- ***iii. Medical centers should be in a commercial zone; they are a land-intensive use that shouldn't be allowed to convert needed industrial land.***

Response: Revising permitted uses in existing land use districts was not part of the code reorganization project. Staff recommends reviewing the permitted uses table for this land use district as part of a future planning effort.

16. Industrial Districts EC & IC

a. ***Table 16.25.010-1 Permitted uses***
   i. ***Commercial day care: Why isn't this use permitted outright in both zones for industrial employees?***
   ii. ***Hotels, commercial outdoor recreation, major event entertainment should be deleted. They are land-intensive commercial uses that belong in commercial zones and shouldn't be allowed to convert needed industrial land.***
   iii. ***Institutional: Except for "educational institutes or trade schools," there is a special zone for schools, parks, religious uses, and other public uses, so they shouldn't be using land needed for industrial uses.***

Response: Staff has changed the use table to allow commercial day cares conditionally in both zones. However, there are currently no code provisions for limiting these uses to ensure that they are supporting industrial employees (for example, by requiring the location to be internal to an industrial campus or building) and without a policy conversation on this issue, staff recommends that the use be conditional, not allowed outright, in both the EC and IC districts. Staff agrees that hotels are not appropriate in the IC district and is recommending that is this use is prohibited in this zone. However, staff maintains that hotels, commercial outdoor recreation, and major event entertainment are consistent with the EC purpose statement and remain recommended conditional uses in this zone. In response to iii. above, these uses are not restricted to the Institutional and Public Use district and are allowed in other zone districts. However, to narrow the opportunity for a non-industrial use educational institution locating in the IC, staff has amended the table to prohibit colleges in the IC zone.

Goal 9 Comments:
Why are hotels and residential hotels Permitted in the Industrial Campus zone (IC)? This use is also allowed outright in the Mixed Commercial Center (MCC) and as a Conditional use in the Community Commercial Center (CCC) and Employment Center (EC). Looking at the Plan Map, the (IC) zone is in close proximity to the (CCC) and (EC) zones; not sure why this would be an allowed use in an Industrial zone, more importantly because it is not an industrial use.

According to Goal 9 660-009-005 (3) "Industrial Use" means employment activities generating income from the production, handling or distribution of goods. Industrial uses include, but are not limited to: manufacturing; assembly; fabrication; processing; storage; logistics; warehousing; importation; distribution and transshipment; and research and development. Industrial uses may have unique land, infrastructure, energy, and transportation requirements. Industrial uses may have external impacts on surrounding uses and may cluster in traditional or new

industrial areas where they are segregated from other non-industrial activities.

Response: Staff agrees that hotels are not appropriate in the IC district and is recommending that is this use is prohibited in this zone. (Note: "Residential hotels" is not defined in the code and has been changed to "hotels" where it appears in use tables.)

Goal 5 Comments:
The PAPA complies with Goal 5. The department suggests that the city clarify that they have a Goal 5 program in place to protect the significant wetlands identifies in the LWI. The easiest way to do this is to state in the comp plan that the city chooses the safe harbor approach to protecting significant wetlands and that these measures area already incorporated into measures adopted to comply with Metro's Title 3 and 13.

Response: Please reference the Goal 5 findings in the January 27, 2009 Happy Valley Staff Report to the Planning Commission, CPA-01-09.

RECEIVED BY

DEC 9 2008

CITY OF HAPPY VALLEY

Dec. 6, 2008

City of Happy Valley
City Hall
Happy Valley, OR 97086

Attention to the City Planning
and Zoning Department

Greetings:

This letter is a request for Zone Change on our near five acres at 9930 S.E. 172nd Ave., which is tentatively zoned for Commercial.

We are requesting the Zoning be changed to Multi-Family Dwelling which would be compatable with the Zoneing of the property joining ours to the South. This would also enhance the potential for a much earlier sale which we are deeply concerned with because of our retirement needs.

Please give serious consideration to this request. Please let us know when the hearing will be.

Sincerely and best regards

Wm T. Brown
Wm. T. (Bill) Brown

Gracie L. Brown
Gracie L. Brown

PHONE # 503-658-7540

EXHIBIT V

January 15th, 2009

Michael Walter
Planning Director
City of Happy Valley
16000 SE Misty Drive
Happy Valley, OR 97086

Re: Letter in support of East Happy Valley Comprehensive Plan (CPA-01-09)

Dear Michael,

As you know, the Beall Family (REAC LLC, GEO LLC) had a contract with West Hills Development to purchase our property. West Hills Development made a number of promises to the City about its willingness to comprehensively plan the 40 acres located at the northwest corner of 172nd Avenue and Hagen Road. Our contract with West Hills Development terminated on December 24, 2008, so there are no immediate plans for a separate applicant-initiated planning process. Therefore, we support the inclusion of the 40 acres north of Hagen Road in the East Happy Valley Comprehensive Plan, and the proposed zoning designations. We also support the procedural approach the City is taking, where the 40 acre block will be removed from the Rock Creek Comprehensive Plan only upon the adoption of the EHVCP.

Thank you for your hard work on this planning process, and for including our letter in the record for CPA-01-09.

Sincerely,

George Beall
Manager REAC LLC / GEO LLC

EXHIBIT W

GRAMOR
DEVELOPMENT

January 16, 2009

Sent Via E-Mail and US Mail Delivery

Attn: Michael Walter
Happy Valley Planning Commission
City of Happy Valley
16000 SE Misty Drive
Happy Valley, OR 97086

RE: East Happy Valley Comprehensive Plan – Comments on Draft Map Designations Request to Redesignate from SFA to MUR on the Easterly Portion of Map 23E6A, Lot 405

Dear Mr. Walter and Members of the Commission:

Gramor Development has been working with DeJager Enterprises to ultimately develop this land area and has been authorized to represent them in this letter and subsequent discussions related to this Comprehensive Plan amendment and rezone process.

The subject property owned by DeJager Enterprises, LLC is currently designated on the plan map as MCC on the western portion of Lot 405 and SFA on the eastern portion of the lot. Immediately to the south is tax lot 400 designated at MUR (refer to Exhibit A). We are supportive of the plan amendments for the MCC and MUR designations as these make locational sense situated adjacent to the major arterial 172nd Avenue and Sunnyside Road intersection. The more intensive plan designations will permit mixed uses and higher residential densities closest to the main transportation corridor slated for primary transit service.

We are supportive of the corresponding Comprehensive Plan policies stated in 55A and 55C.1 that justify the commercial development in this location with the MCC designation. Similarly we are supportive of the Plan policy 51D, for High Density Residential Attached (SFA, MUR-A, VTH, MUR-M and X), which supports the current MUR designation. This policy reads:

> *"High Density Residential Attached (SFA, MUR-A, VTH, MUR-M and X). These districts provide for a variety of attached housing and neighborhood commercial uses. They are intended to make efficient use of land and public services, accommodate a range of housing needs, provide for compatible design at*

EXHIBIT X

neighborhood scale, reduce reliance on the automobile for neighborhood travel, provide for walking, bicycling and transit use, and provide direct and convenient access to schools, parks and neighborhood services."

"These districts may be applied near (generally within ¼ mile) of mixed use centers and districts, along collector and arterial streets, and within a block of streets planned for transit. They may also be part of master planned developments, where greater flexibility in their location may be considered."

Based on this definition and the location of the proposed extension of SE Sunnyside Road (Major arterial) bisecting the property, we still urge the staff and Commission to consider redesignating the eastern half of parcel 405 from SFA to MUR. Staff has commented that if this were granted that there would no longer be the "feathering" of land uses from most dense to least dense and therefore diminish the affect of buffering the more intense land uses. Exhibit B attached, shows the draft Comprehensive Plan for Damascus for the lands immediately east of the jurisdictional boundary. It displays low density residential with 3 – 6 units per acre abutting the proposed SFA property and just north east of this is medium density residential at 6-12 units per acre. Sunnyside Road extends northeast and connects with SE Vogel Road. A conservation overlay zone also is shown correlating to the steeply sloped properties in the area. These land uses display the "feathering" of densities across the jurisdictional boundaries.

Examination of the slopes on the subject property provides the most compelling evidence to redesignate the property from SFA to MUR. Exhibit C attached, provides a slope analysis conducted by a registered engineer of OTAK, Inc. This exhibit is reliant on a topographic and boundary survey conducted by a registered surveyor. The exhibit displays green colors for slope gradients 15 percent or higher with the darker green depicting slopes greater than 25 percent. Roughly 50 percent of tax lot 400 will be developable due to the slopes and roughly 30 percent of the eastern half of tax lot 405 is developable. Granting the higher residential density to say MUR-M1 (15 – 24 DU/Acre) will allow a greater number of dwelling units to be constructed on the limited land area. Translating this to units, it could be in the range of 39 units under SFA and 63 units under an MUR scenario. This is significant because it continues to provide denser housing alternatives within ¼ mile of a mixed use center and transit and adjacent to a planned arterial street (Sunnyside Road Extension). It is also significant in that a critical mass of residential units is required to spread out the management fees for such housing units. The increased density allows the potential for residential development to actually take place. Without this critical mass potential attached unit developers will seek other sites for housing.

The development land pattern resulting from such a plan redesignation will be required to have significant open spaces due to the steep slope overlay district and this will allow "pockets"

of development, instead of a sheer wall of apartments under a flat land scenario, contrasting with low density residential to the east. To the north and south would remain another tract of SFA designated land providing the density gradients originally contemplated and desired by staff. The SFA would permit densities up to 15 DU per acre. To the west is the MCC designation and to the east within Damascus would be Low Density Residential. In other words, this eastern side is the only segment of land that would have a more sharply contrasting shift in densities. Additionally, this type of use (MUR) will help to better accommodate the City's share of residential growth and increase the types of units available in the City.

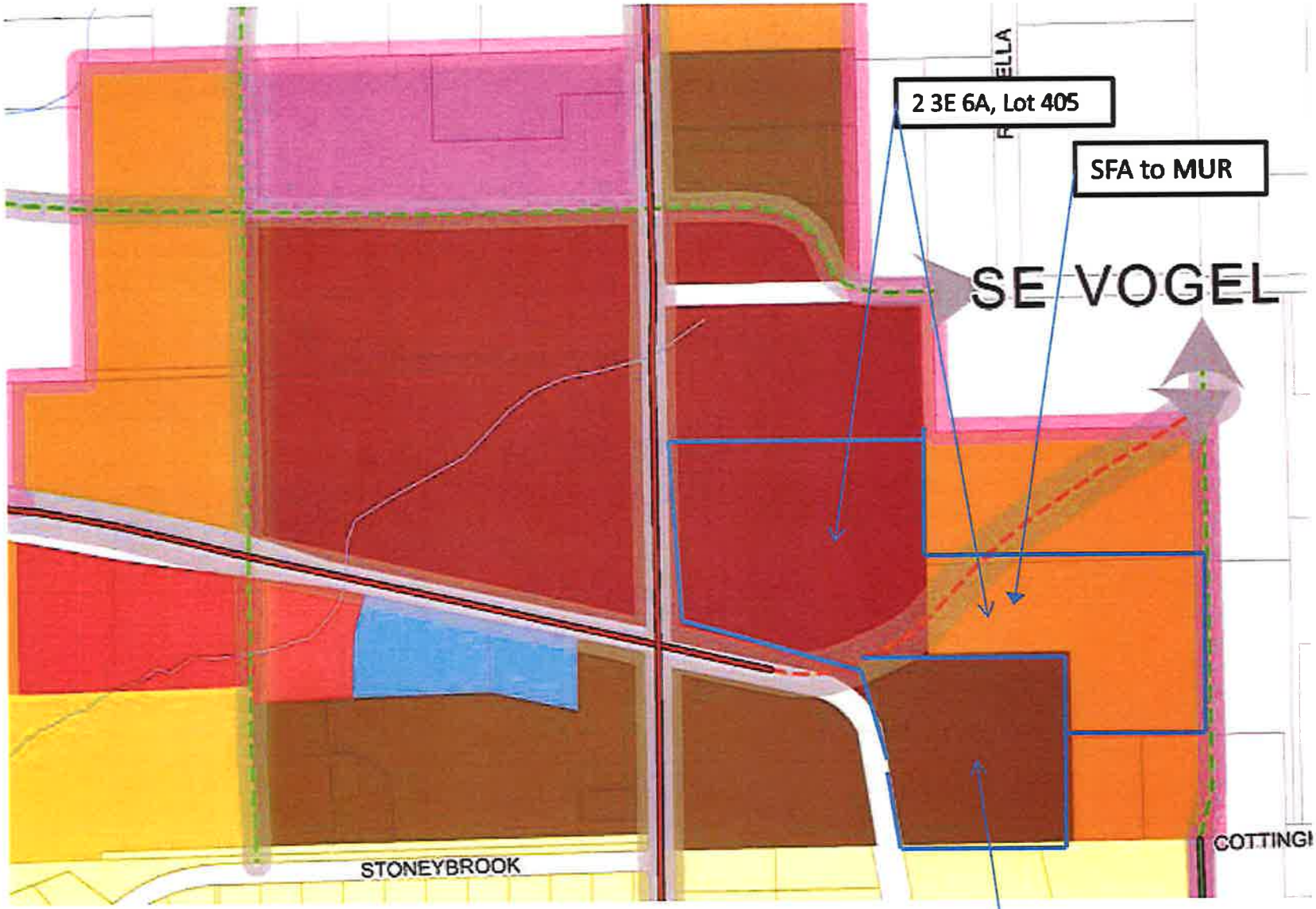
We urge your positive consideration to redesignate this eastern half of tax lot 405 from SFA to MUR. Thank you for your consideration and time in this planning process and we look forward to a fair outcome.

Sincerely,
Gramor Development, Inc.

Matt Grady, AICP
Senior Project Manager

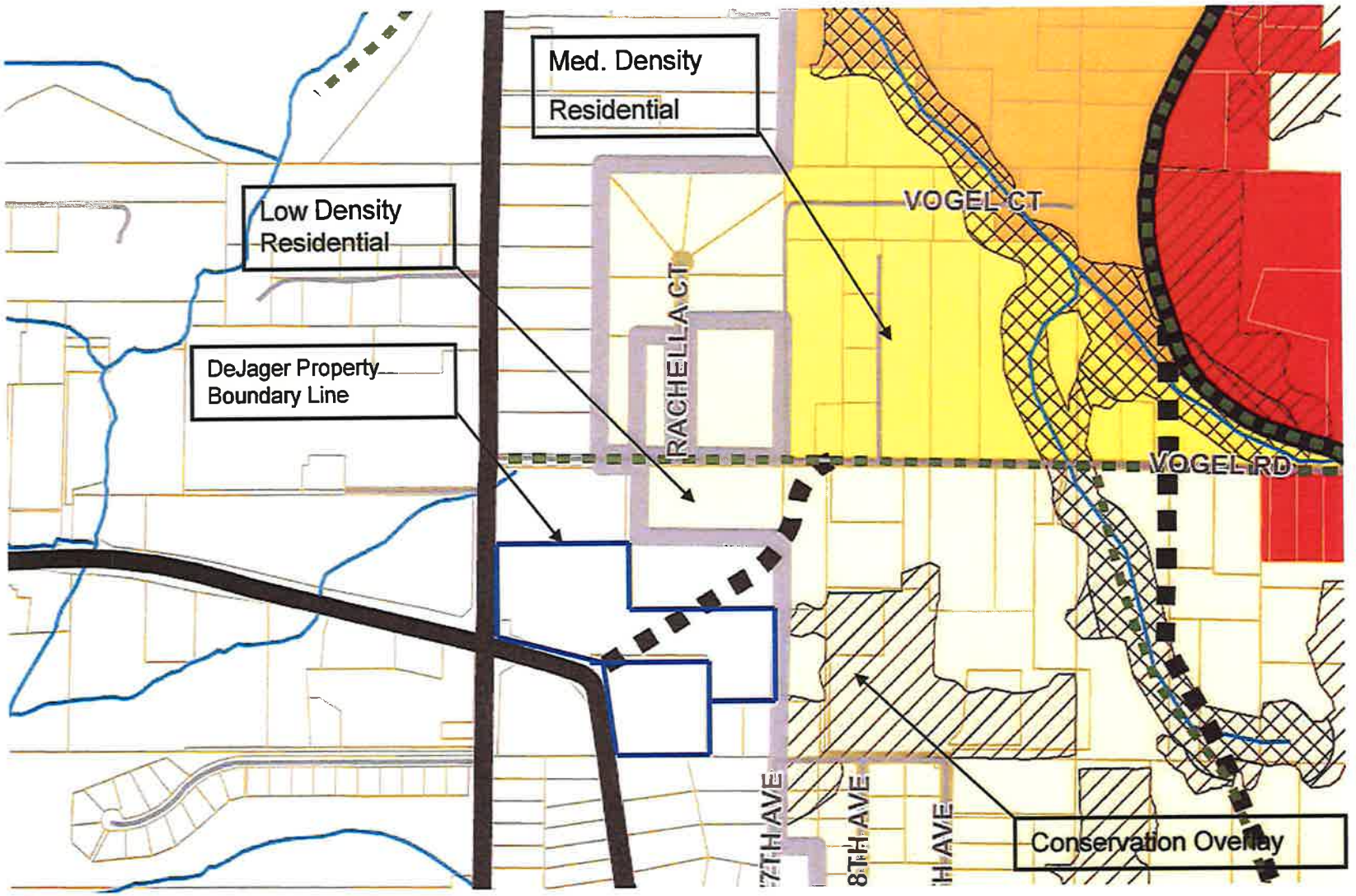
MG:kw
Exhibits:
A - Happy Valley Proposed Comprehensive Plan (enlargement of subject property)
B - Damascus Proposed Comprehensive Plan (enlargement of subject property)
C - Slope Map

cc: Joe DeJager/ DeJager Enterprises



East Happy Valley Plan Comprehensive Plan Update
Plan Map Draft 11/25/08

EXHIBIT A

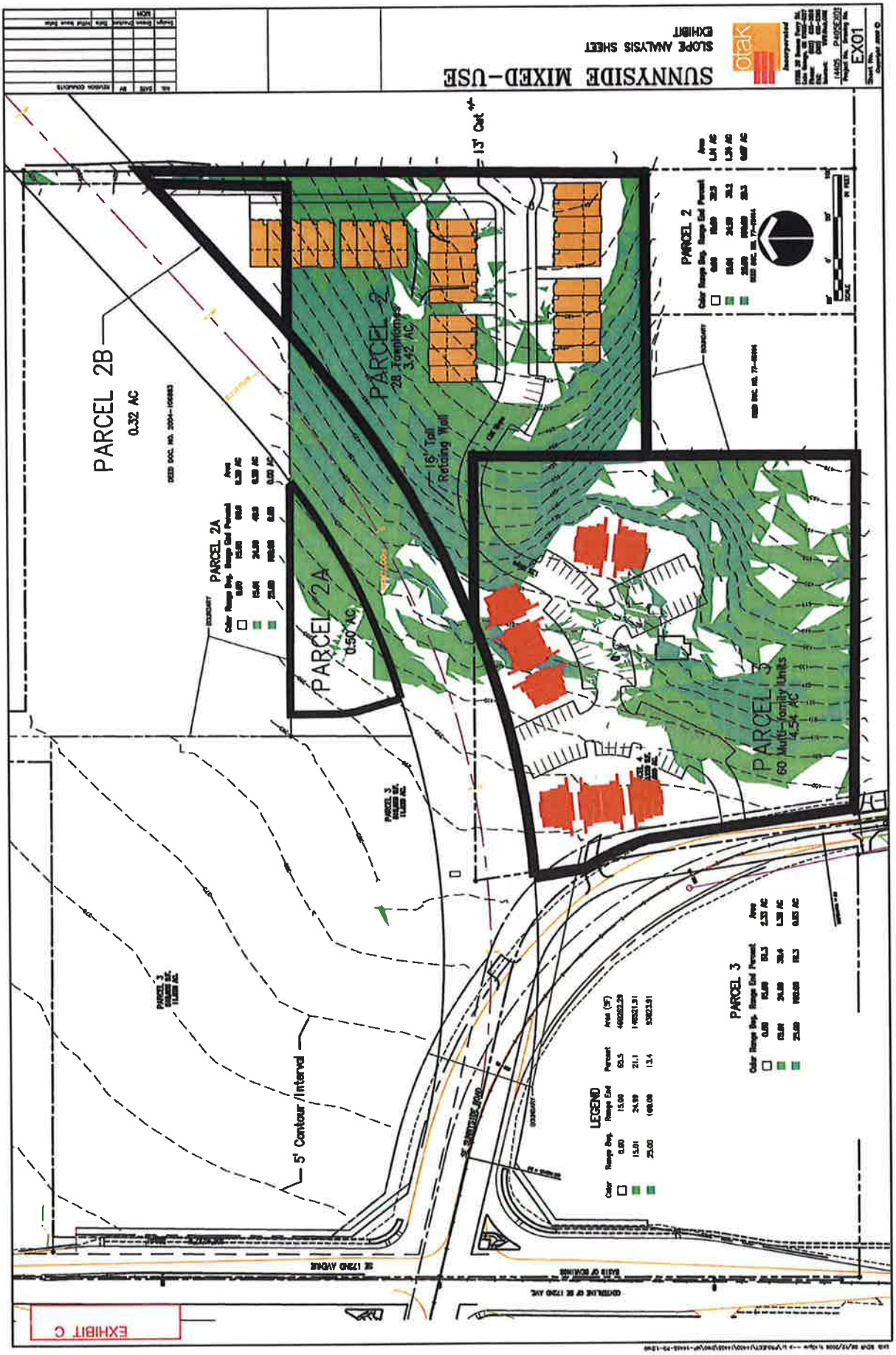


Draft Damascus Comprehensive Plan

November 4, 2008

EXHIBIT B

EXHIBIT C


SUNNYSIDE MIXED-USE
SLOPE ANALYSIS SHEET
EXHIBIT
EX01
PARCEL 2B
0.32 AC
PARCEL 2
28 Townhomes
3.42 AC
PARCEL 2A
0.50 AC
PARCEL 3
60 Multi-family Units
4.54 AC
16' Tall Retaining Wall
13' Cut +/-
5' Contour Interval
LEGEND
PARCEL 2
PARCEL 2A
PARCEL 3
SE 172ND AVENUE
SE SUNNYSIDE BLVD
EXHIBIT C

GRAMOR
DEVELOPMENT

January 16, 2009

Attn: Michael Walter Sent Via E-Mail and US Mail Delivery
City of Happy Valley Planning Commission
City of Happy Valley
16000 SE Misty Drive
Happy Valley, OR 97086

Re: East Happy Valley Plan Amendment to Happy Valley Comprehensive Plan Policies and Map (Assessor Map 2 3E06B 100, 2 3E 06BA 1100, 1190, 1200 and 1290)

Dear Mr. Walter and Members of the Commission:

This testimony provides positive support from Gramor Development for the proposed plan policies and map designations at the above referenced assessor lots. As you know, we were participants on the Advisory Committee last year and discussed the plans and policies before you in great detail. We continue to be very interested in the implementation of the plan.

Gramor is in support of the proposed policy language dated January 2009 in connection to the draft plan map for the 2,500 acre planning area. Of particular interest to our company, are the policy sections describing the commercial development located on the northwest quadrant of the Sunnyside Road and 172nd Avenue intersection (attached as Exhibit A and identified above). Policies 55a, b, and c establish mixed commercial centers, community commercial centers and neighborhood commercial. Policies 55.C1, C2 and C3 provide location and compatibility requirements for each of the three commercial districts.

During the course of the workshops held in 2008 we have heard concern about the policy language contained in Policy 55.C.1, that would permit a mixed commercial center to exceed 15 acres but not to exceed 20 acres with a maximum building footprint size limited to 150,000 square feet, per structure. We want to point out that the second portion of this policy provides six requirements that must be met in order to achieve this center. They are as follows:

1. the visual impact of larger scale development has been mitigated;
2. the streetscape is pedestrian-oriented and varied to create visual interest;
3. public amenities are provided and scaled appropriately;
4. transition to adjacent areas and future development are provided;
5. adequate infrastructure is provided; and
6. overall design excellence aligns justifies the larger than normal scale of the project.

EXHIBIT Y

We believe the policy language provides the necessary design criteria to provide an outstanding commercial center that includes the ability to contain a building up to 150,000 square feet in size. All other structures are limited to 60,000 square feet per structure. It is noteworthy to add that these six (6) policies are in addition to the already existing Title 16 Development Code, Section 32.090 Happy Valley Style design review standards for non-residential development. The standards call for complex massing for new buildings, placement of buildings along street fronts, placement of pedestrian amenities within the maximum building setbacks, entrances oriented towards street fronts, roof forms that promote diversity, minimum building heights of 22 feet, inclusion of store front windows, display windows facing the street front, quality building materials made of masonry, wood and glass. These type of design controls ensure that what ever gets approved is compatible with the Happy Valley Style and is aesthetically pleasing.

In regards to the plan map showing Single Family Attached (SFA) designation immediately to the west of the MCC lands, we have requested that this be intensified to MUR, in testimony presented in July of 2008. The current draft map does not reflect this and we wanted to reiterate our rationale. The specific SFA land use is located just north of SE Sunnyside Road and adjacent to the east side of Rock Creek. The area is roughly 9 acres in size encompassing portions of three tax assessor lots.

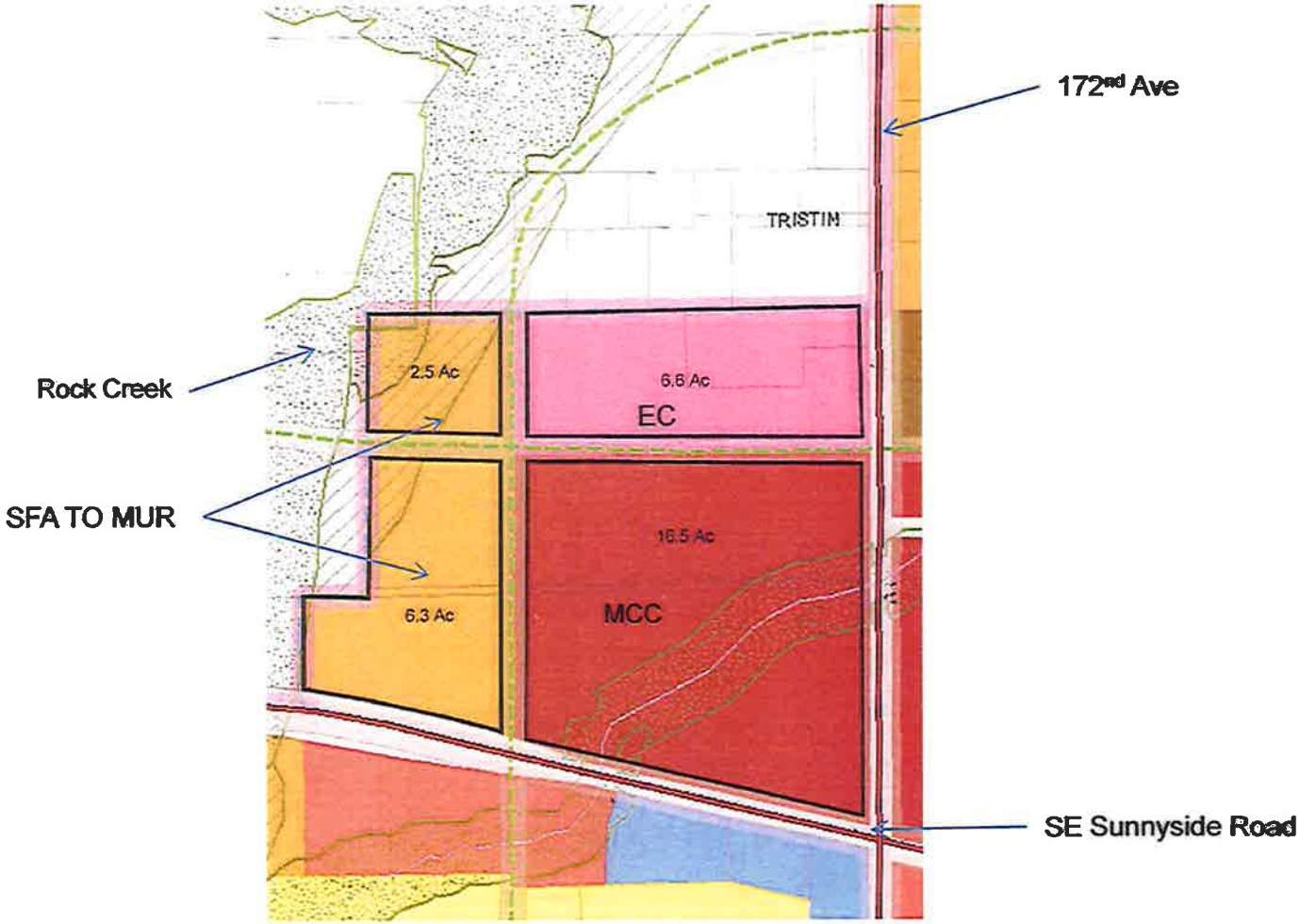
The land use change consists of altering the 9 acres of proposed Single Family Attached (SFA) on the west side to Mixed Use Residential (MUR). The reasoning is the higher density will permit more dwelling units. SFA designation allows up to 15 DU per acre versus the MUR-M1, M2 and M3 that would permit a range from 15 to 50 dwelling units per acre. This will provide much more flexibility in the ultimate design for this area and permit a wider range of housing units to be constructed. The SFA designation limits the potential uses to townhomes, duplexes and triplexes, while the MUR would permit multi-family structures in addition to the townhomes, duplexes and triplexes. The slopes ranging from 15 to greater than 25 percent consume 3 acres or more along the western edges of the property. Given this situation, the MUR would allow the ultimate flexibility for the development pattern and provide for more potential housing units in close proximity to the adjacent MCC and EC designated properties.

Thank you for the opportunity to present our support for this planning effort. If you have questions we can reached at 503-245-1976.

Sincerely,
Gramor Development Inc.

Matt Grady, AICP
Senior Project Manager

MG:kw/Attachment - Exhibit A



DRAFT EAST HAPPY VALLEY PLAN

EXHIBIT A

10560 SE Vradenburg Road
Happy Valley, OR 97086
January 16, 2009

Planning Commission
City of Happy Valley
16000 SE Misty Drive
Happy Valley, OR 97086

Re: Comments for Public Hearing on East Happy Valley Comprehensive Plan

Dear Planning Commission:

I submit the following comments for your consideration. My comments concern primarily proposed Chapter 16.32 Steep Slopes Development Overlay.

1. The proposed code amendments are too complex for citizens to understand.

The proposed amendments were apparently written by the City's expert consultants who used technical terms and concepts that will not understood by the average citizen. A basic requirement should be that the City's codes are written in plain language so that its citizens can understand how the code will apply to their individual situations. Property owners will have to hire a variety of expensive consultants to learn how the code will be applied to their properties.

2. The stated justifications for the new code amendments are questionable.

The City's present code has allowed development of land up to 20% slope. Numerous houses have been built in recent years in the City on slopes greater than the 15% limit imposed by the proposed amendments. The City has not documented any problems that this development has caused. Stated justifications for the new amendments are that the sloped areas are located at the headwaters of watersheds, and provide wildlife habitat. However, the proposed amendments will permit the development of large unsloped areas on the tops of watersheds located within wildlife habitat. It appears that the main motivation for the steep slopes development overlay is to preserve the scenic views of the slopes from below, which the City has not done in the past.

3. The proposed sliding scale for the development of transition slope areas is too restrictive.

Section 16.32.040. F. of the proposed amendments provides, for example, that if a property has 50 percent or more of its area in transition slopes (15-24.99 percent slope), then a only maximum of 50 percent of the transition slope area may be developed. Using a simple example, if a ten acre parcel is all transition slope, only five of the ten acres (one-half) may be developed. Then, under Table 16.32.020-1: Determine Net Buildable Area, step 4, 20% of this gross buildable area of five acres is removed for public-rights-of-way. This apparently means that one of the five acres in the example is removed for public-rights-of-way, leaving only four acres of the ten acre parcel (40%) that can be developed. The result is that less than one-half of a

EXHIBIT Z

sloped parcel of private property can be developed, in an area that is inside the urban growth boundary. The Key Concepts handout at the City's Planning Open House on October 28, 2008, states that "The SSDO allows for the development of 20 to 40% of Transition Slope Area . . ."

The proposed amendments impose an additional restriction on the development of transition slope areas by requiring that the development in the net buildable area be "clustered." (See Section 16.32.100.) The term "clustered" is not defined in the proposed amendments, and could be interpreted to mean that the houses have to be clustered into a smaller area than the net buildable area. This term "clustered" should be eliminated or clearly defined.

4. The proposed amendments result in the unconstitutional taking of private property.

Using the example in section 3 above, only about 40 percent of the sloped ten acre parcel can be developed. The remaining 60 percent of the parcel cannot be developed. If this remainder is covered with trees, as it often is in sloped areas, the trees cannot be removed under the City's tree removal regulations. Therefore, more than one-half of the private property cannot be put to any productive use. The City will not provide any compensation for its control and effective taking of this private property. If the City is taking this private property for what it considers to be public purposes, the owners of the private property should be compensated.

5. The proposed density transfer limit to only contiguous properties is unfair.

The proposed density transfer provisions are contained in Chapter 16.32.100 and Table 16.32.020-2: Calculate Density and Transferable Units. These appear to provide that property owners will have a right to two dwelling units for each acre of transition slope area. Since dwelling units cannot be built on the unbuildable sloped area , the density can be transferred to the net buildable area of a property, to a limit of 175% of the underlying density allowed for the net buildable area. The density that cannot be absorbed within a parcel can be transferred to other contiguous (adjoining) properties, up to 175% of the base allowable density of those properties. A reason for allowing density transfers to other properties is to give sloped property owners some monetary value for the development rights that they will be denied on their own properties.

The problem is that limiting density transfers to only contiguous properties may result in property owners not being able to transfer their excess density to other properties. There are various reasons why contiguous properties may not absorb excess density, for example, those property owners may not develop their properties; or may not want the excess density from other properties; or they may have already absorbed their development limits from the sloped areas of their own properties. The City had AKS Engineering & Forestry, LLC, do tentative density calculations under the proposed code for the property that we own (Jordan Property). They concluded that on our property of about 10.85 acres we could build 11 dwelling units, and would have 14 additional transferable dwelling units. When I think of the four contiguous properties that adjoin our property, I conclude that it will be unlikely that we will be able to transfer the 14 transferable dwelling units. Therefore, the transferable units may not have any monetary value. The result is that some property owners will be given transferable units that will have monetary value, but others will be given transferable units that will not have monetary value, depending on

the unique circumstances of the properties. This uncertainty and inequality should be avoided.

A decision that has been left for the Planning Commission and the City Council is whether the City should implement a system to permit the transfer of excess density units from sloped properties to non-sloped / non-contiguous properties. I think the City should develop a method to permit the transfer of excess density to non-contiguous properties. Reasons for this are that it would be more fair to the owners of sloped properties, and it would serve to transfer density off of the sloped areas in accordance with the City's objectives. A reason to not implement a system to transfer density to non-contiguous properties may be that it may require a somewhat compex system. However, this possible reason is outweighed by the good reasons to have such a system. Also, the proposed code amendments are so complex already that the addition of a method to transfer density to non-contiguous properties will not unduly add to the complexity of the amendments.

6. The City's requirements for studies and reports for sloped areas will be excessively expensive.

Section 16.32.080.B and C. of the proposed amendments states that the City may require studies and reports for planned development of transition slope areas, including geological assessments, engineering geology reports, geotechnical reports, hydrology and soils reports, a grading plan, a native vegetation report, and possibly an environmental review permit. These studies and reports should not be required unless the City has a very good reason for doing so. These reports will apparently not be required for the development of properties that have less than 15% slope, even though those properties may adjoin the restricted transition slope properties. The burdens that the proposed amendments place on the owners of transition sloped properties will be excessively expensive. I have not heard any reasons stated why these requirements are not imposed on properties that have less than 15% slope.

7. The proposed site design criteria impose even more restrictions on sloped properties.

Proposed Section 16.32.110 Site Design Criteria impose additional requirements for transition slope properties that are not imposed on other properties that have slopes less than 15%. These requirements include placing development on land on the parcel that have less than 15% slope; protecting "significant" trees; coordinating open spaces with adjacent properties; linking wildlife and pedestrian trails; using short access routes; minimizing cuts and fills; creating open space tracts; and using shared access. It is unfair and inconsistent that these requirements are imposed on only transition sloped properties. If the City thinks these are good ideas, they should be required for all other development in the City, regardless of the slope.

8. The map that the City is using for the East Happy Valley Development Plan is inaccurate.

The City has been using the same map for over two years, despite being informed that the map does not accurately reflect the slopes and water ways. We were one of the few property owners to volunteer to participate in the City's wetlands inventory, and were told that the map would be changed to reflect the findings of the inventory. However, the map has not been changed. The City's position is that the map is used for planning purposes only, and that the

surveys and studies performed at the time of development will be controlling. I am concerned that the continued use of this map for all of the City's planning purposes will build layer after layer of planning on it, and make it increasingly difficult to show someday that the City's map is not accurate.

9. Summary.

I think that the proposed code amendments are excessively complex, burdensome, and expensive to the owners of properties that have been defined as having "transition slope areas." I feel that although there has been public participation in the process to date, that the major emphasis of the process has been to introduce, explain, and justify the development plan that the City's consultants created. I think that there are other better ways to reach the City's stated development objectives, instead of the oppressive plan that has been proposed.

Sincerely,

James Jordan

NOTICE OF PUBLIC HEARING

CITY OF HAPPY VALLEY

PLANNING COMMISSION

THIS IS TO NOTIFY YOU THAT THE CITY OF HAPPY VALLEY PROPOSES A PLAN AND/OR LAND USE REGULATION THAT MAY AFFECT THE PERMISSIBLE USES OF YOUR PROPERY AND OTHER PROPERTIES (IF CURRENTLY ANNEXED WITHIN CITY LIMITS).

This notice is provided in order to comply with Ballot Measure 56 - approved by Oregon voters on November 3, 1998. Ballot Measure 56 requires the City to print the following sentence: "The City has determined that adoption of this ordinance may affect the permissible uses of your property, and other properties in the affected zone, and may change the value of your property."

Notice is hereby given that the

HAPPY VALLEY PLANNING COMMISSION will hold
PUBLIC HEARINGS on
TUESDAY, JANUARY 27, 2009 and **TUESDAY, FEBRUARY 10, 2009** both hearings to commence **at 7:00 p.m.**

The hearings will be held at the Happy Valley City Hall
16000 SE Misty Drive,
Happy Valley, OR, 97086

The purpose of these hearings is to consider public testimony on:

AMENDMENTS TO THE CITY'S COMPREHENSIVE PLAN MAP/ZONING MAP, COMPRHENSIVE PLAN TEXT, DEVELOPMENT CODE TEXT AND TRANSPORTATION SYSTEM PLAN (TSP) PROVIDNG (IN PART) FOR THE ADOPTION OF THE EAST HAPPY VALLEY COMPREHENSIVE PLAN (EHVCP)

On January 27, 2009 and February 10, 2009, the City of Happy Valley will hold public hearings regarding proposed amendments to the City's Comprehensive Plan Map/Zoning Map, Comprehensive Plan Text and TSP (File No. CPA-01-09) and Development Code Text Amendments (File No. LDO-01-09). A copy of the Draft EHVCP Map is included with this notice. ***The City of Happy Valley has determined that adoption of this plan may affect the permissible uses of your property, and other properties in the affected area, and may change the value of your property.*** These files are available for inspection at the City of Happy Valley City Hall located at 16000 SE Misty Drive, Happy Valley, OR 97086 and are posted on our website at www.ci.happy-valley.or.us. A copy of the entire file or portions thereof may be obtained via e-mail or with copying costs for paper copies. **All written comments must be received by Friday, January 16, 2009 at the above address.** For additional information concerning the file, please contact Michael D. Walter, Planning Director at 503-783-3839, or write to michaelw@ci.happy-valley.or.us. The Planning Commission holds a first evidentiary public hearing in regard to the proposed Amendments, followed by a recommendation to the City Council. The City Council is the final local review authority and will consider the Amendments and an Ordinance at subsequent public hearings. Applicable criteria for this review are generally set forth in:

- Happy Valley Comprehensive Plan Policies;
- Happy Valley Development Code
- Metro Urban Growth Management Functional Plan; and,
- Oregon Statewide Planning Goals and Statutes.

Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting if requested at least 72 hours prior to the meeting. To obtain such services, please contact Marylee Walden, City Recorder, at 503.783.3800

EXHIBIT AA

NOTICE OF PUBLIC HEARING
City of Happy Valley Planning Commission

Notice is hereby given that the City of Happy Valley Planning Commission will hold public hearings on the following dates in regard to the proposed East Happy Valley Comprehensive Plan:

Date & Time: January 27, 2009 and February 10, 2009 at 7:00 p.m.

Hearing Location: City Hall, 16000 SE Misty Drive, Happy Valley, OR 97086;

File & Subject: File No. CPA-01-09; legislative application of Comprehensive Plan designations/zoning districts, Comprehensive Plan text amendments and TSP Update.

Proposal: Adoption of the City's East Happy Valley Comprehensive Plan, including the concurrent Comprehensive Plan Text Amendments and TSP Update.

Location: City Wide

Applicant: City of Happy Valley

Applicable Criteria: Applicable Policies from the City of Happy Valley Comprehensive Plan; Title 16 (Development Code) of the City of Happy Valley Municipal Code, including Chapter 16.40 (Amendments to the Comprehensive Plan, Specific Area Plans, Land Use Maps and Land Development Title of this Code); the Metro Urban Growth Management Functional Plan; and, Oregon Statewide Planning Goals and Statutes.

Staff Contact: Michael Walter, Planning Director
503-783-3839

Interested parties are invited to attend this hearing or to submit comments in writing prior to the meeting time. Written testimony may be submitted in advance or in person at the hearing. Those wishing to present verbal testimony, either pro, con, or to raise questions, will be asked to speak after presentation of the report.

Testimony should pertain to the applicable criteria. The recommendation of the Planning Commission to the City Council will be made in accordance with said criteria. Failure to raise an issue in writing prior to or before the close of the written comment period or failure to provide sufficient specificity at the public hearing to afford the Planning Commission an opportunity to respond to the issue precludes

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appeal to the Land Use Board of Appeals based upon that issue. The applicant and any person who submits written comments shall receive notice of the decision.

The failure of the applicant to raise constitutional or other issues relating to proposed conditions of approval with sufficient specificity to allow this Commission to respond to the issue precludes an action for damages in circuit court.

The decision-making criteria, application, and records concerning this matter are available at the City of Happy Valley City Hall at the above address during working hours (8:00 a.m. to 5:00 p.m. weekdays), please call for an appointment. For additional information, contact Michael D. Walter, Planning Director, at the above address and phone number.

The meeting site is accessible to handicapped individuals. Assistance with communications (visual, hearing) must be requested 72 hours in advance by contacting Marylee Walden, City Recorder at the above phone number.