



AGENDA

Technical Advisory Committee - Meeting #11

Thursday, February 27, 2020

3:00 – 4:30 PM

Happy Valley City Hall – Council Chambers

16000 SE Misty Drive, Happy Valley, OR

ITEM	TIME
Welcome and Introductory Items <ul style="list-style-type: none"> a. Welcome - Michael Walter b. Approval of Minutes (TAC Meetings 10) c. Where we are in the process, today's agenda and next steps – Joe Dills, APG 	3:00-3:10 PM
Overview of the PV/NC Reports <ul style="list-style-type: none"> a. The Pleasant Valley/North Carver Comprehensive Plan Summary Report <i>See attached report. The Summary Report captures the key concepts and recommendations that have been developed during the process. It will be adopted as an appendix to the Happy Valley Comprehensive Plan. This agenda item will be a brief overview and discussion by the committee. Please note that the report is in draft form and subject to further graphic updates.</i> b. Supporting Documents <i>The following documents provide the technical background and implementation for the PV/NC Summary Report. They will be exhibits adopted as part of the approval of the PV/NC Comprehensive Plan. Their content is largely a "report version" of the information presented to the committees during the process. They include:</i> <ul style="list-style-type: none"> • Pleasant Valley/North Carver Housing Needs Analysis (posted on web site) • Pleasant Valley/North Carver Economic Opportunities Analysis (posted on web site) • Happy Valley Parks, Recreation & Open Space Plan Update (posted on web site) • Happy Valley Transportation System Plan Update (will be posted for Committee and public review when available) • Infrastructure Master Plans for Water (Sunrise Water Authority), Sewer, and Storm Water (Clackamas County Water Environment Services). These 	3:10-4:10 PM

exhibits will be included in the hearings materials for the Planning Commission and City Council.

Committee Adjournment

4:10–4:15 PM

TAC Minutes

1-23-20 – 3:00pm – 5:00pm

Attendance

See Sign-In sheet - Introductions were made.

Meeting began at 3:00 p.m.

The following discussion was made:

- Minutes were approved
- Second to the last TAC meeting – last meeting is February 27th
- Developing a project report for the PVNCCPC
- Everything discussed to this point will be put into a packet for the PC and then the CC – if not appealed at the CC then it is adopted
- Will have community outreach after the February meeting

OTAK - Kevin Timmons

- OTAK was hired to develop a system wide stormwater system plan for Area 2
- Managing stormwater is done to protect nature life from urban development and to manage water quality by treatment and water flow
- WES sets design standards for new development and manages it in the future once built out
- Existing condition s drain to smaller stream territories and rivers
- OTAK looks at where the water is going and recommends a strategy for new development
- Regional Stormwater Facility Strategy:
 - There are 12 regional facility locations identified for the area
 - Will update to match the PVNCCP
 - WES design standards are currently being updated
 - Showed what a regional facility would look like
- Challenges of a Regional Stormwater Facilities
 - Implementation
 - Phasing of the development
 - Funding
 - Land Easements
 - New Policies and Procedures
 - There is such a thing as an interim stormwater facility
- Regional Stormwater Facility Benefits

- A lower life cycle cost
- Less overall land requirement
- Removes a barrier to development of individual sites
- Opportunity for neighborhood amenity
- Some government cities require a design review on these facilities
- Are there any liability within these facilities – there is some risk management issues but most are placed within a tract
- Fencing requirements have been greatly reduced
- There will be more developable land once the PVNCCP is in place to accommodate these facilities
- Onsite stormwater management is applied to everywhere the regional facility is applied
- Is the top of the butte a candidate for a regional stormwater facility
 - This area would probably be a Master Plan and could have a star on the map for a facility location
 - Request to have Otak take another look at this location
 - Also suggest that the other side of the butte be considered
- A green management approach to the Carver area was recommended – this issue should be discussed with the CAC
- So will add stars along the large undeveloped areas and build a conveyance system along Hwy 212 and the river front areas – yes
- Stars are recommendations for regional sites but doesn't mean that others can't happen in other locations
- Is road water calculated within the regional facilities – WES manages road runoff

The following discussion continued:

- Infrastructure Planning
 - The downtown district zoning is located at Hemrich Rd and Foster Rd
 - This is a first draft which incorporates same concepts but includes fundamentals of a walkable downtown area and some more specifics
 - A land use update was made around the Main St downtown area
- Foster Parkway District
 - Will have downtown district zoning
 - Three lane section with emergency pull outs
 - It seems like the lanes are narrow what is the spread requirements – lanes are 12ft wide – will need to consider the spread requirements of WES
 - Need to consider passing
 - Feel that more width is necessary – suggest at least another 2ft
- The east side of Foster Rd will have more of an urban feel in certain areas
- Options Considered

- Employment lands – captured points of view from the CAC
- North Carver Road Connections – connection of Tong Rd to Hwy 212
- Will let CAC know that these are the minority opinions from over a year and a half and will emphasize that there won't be any discussions or changes
- Request that the Next Steps Predictions be changed from Spring 2020 to Summer 2020

The meeting was adjourned at 4:27 p.m.

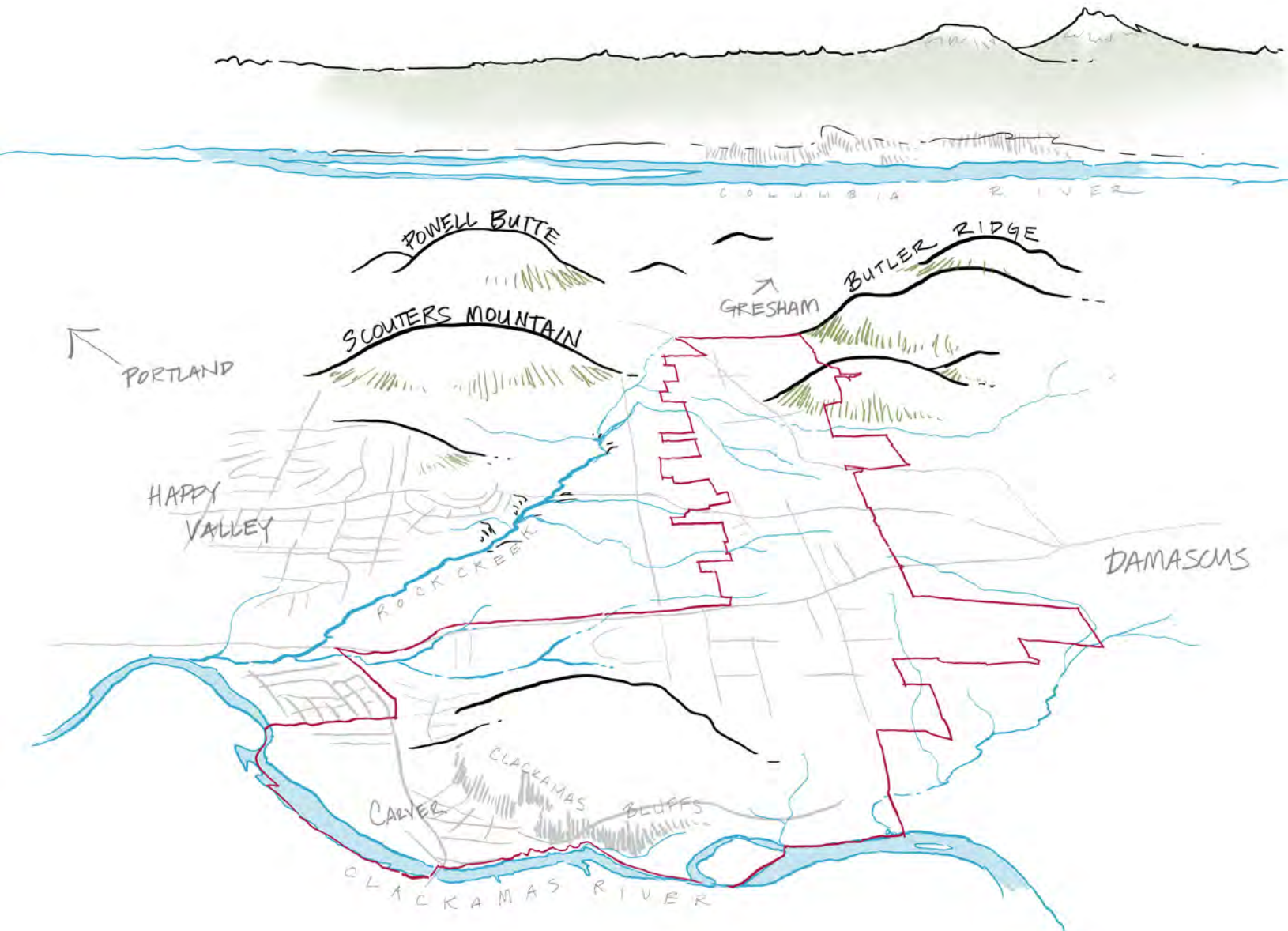
Minutes were taken by Cheryl Whitehead, Planning Department.



**Pleasant Valley/
North Carver**
COMPREHENSIVE PLAN



SUMMARY REPORT



DRAFT

February 19, 2020

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The Pleasant Valley / North Carver Comprehensive Plan was funded by the City of Happy Valley and a grant from the Metro 2040 Planning and Development Grant Program.



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INTRODUCTION



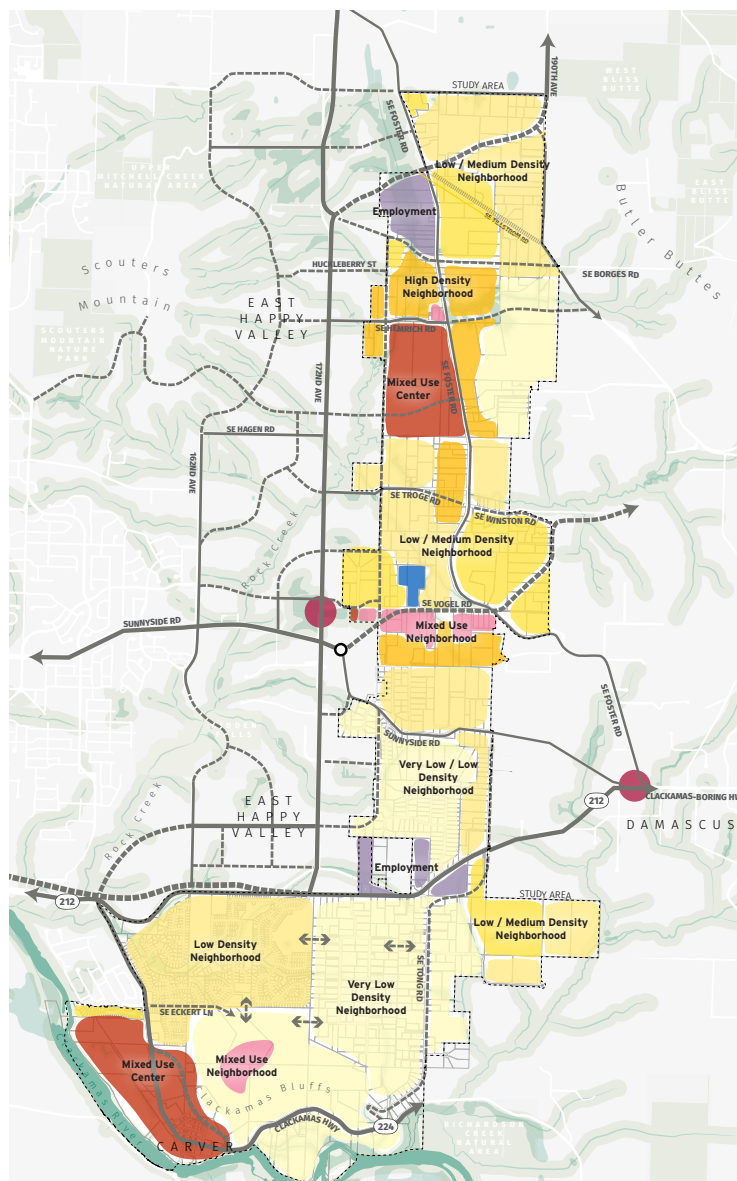
The Pleasant Valley/North Carver (PV/NC) Comprehensive Plan is a vision and integrated land use and transportation plan for a 2700-acre addition to Happy Valley. The purposes of this report are to:

1. Summarize the recommendations from the 2018-2020 PV/NC planning process
2. Serve as an adopted appendix to the Happy Valley Comprehensive Plan

The PV/NC process brought together City representatives, property owners, area residents, partnering governments and other stakeholders to guide the development of the plan and craft its recommendations. These groups worked together to successfully:

- Establish the **vision and guiding principles** for the PV/NC plan;
- Map and evaluate **natural resources**, the area's **unique landscape** setting and topography, land use, history and other existing conditions;
- Project land needs for **housing, employment, parks**, and other key land uses;
- Prepare land use concepts and mapped designations for **new residential neighborhoods and employment districts**;
- Define **two new mixed-use districts**: the Pleasant Valley Downtown District and Carver Riverfront District;
- Prepare **transportation plans** (streets, bikeways, and trails) that are integrated with the future land use
- Coordinate the PV/NC plan with **water, sanitary sewer and storm water** master planning by Sunrise Water Authority and Clackamas County Water and Environmental Services

- Develop Comprehensive Plan policies to guide future development and plan implementation
- Prepare updates to the Happy Valley Transportation System Plan and Parks and Recreation Master Plan



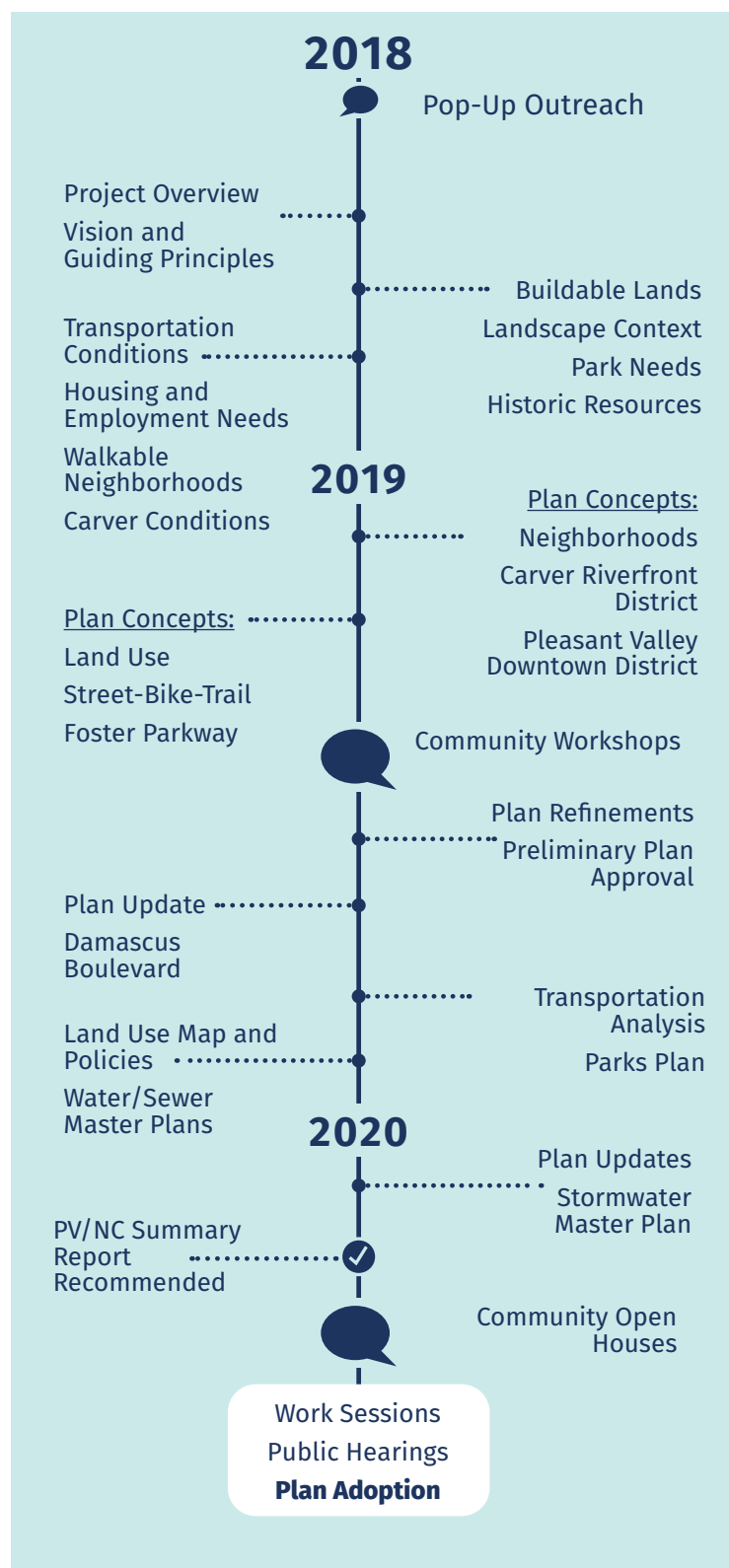
Planning Milestones leading to the PV/NC Comprehensive Plan

The major steps leading to the PV/NC Comprehensive Plan included:

- **2002** – Expansion of the Urban Growth Boundary to include approximately 10,000 acres reaching east to Damascus.
- **2004 to 2006** – Preparation of the Damascus-Boring Concept Plan
- **2004** – Incorporation of the City of Damascus
- **2009** - Adoption of the East Happy Valley Comprehensive Plan by the City of Happy Valley
- **2015 to 2018** - Property-owner initiated annexations of approximately 1,000 acres within the study area
- **2016 to 2019** – Legislative and judicial actions related to the disincorporation of the City of Damascus (ongoing)
- **2017** – Award of a Metro planning grant for the PV/NC Comprehensive Plan

Multiple planning studies in the vicinity were conducted during the timeline summarized above, including: the Pleasant Valley Concept Plan and Plan District; comprehensive planning studies and proposals by the City of Damascus; planning for the Rock Creek employment area; the 172/190th Avenue Corridor Plan. All of these efforts were utilized in, and provided valuable insights to, the PV/NC Comprehensive Plan.

PROJECT TIMELINE





The 2018-2020 PV/NC Process

In 2018, the City of Happy Valley initiated the PV/NC process by completing a work plan and appointing two advisory committees: the PV/NC Community Advisory Committee (CAC) and Technical Advisory Committee (TAC). The 13-member CAC, representing a broad cross-section of community members and property owners, met eleven times between October 2018 and February 2020.

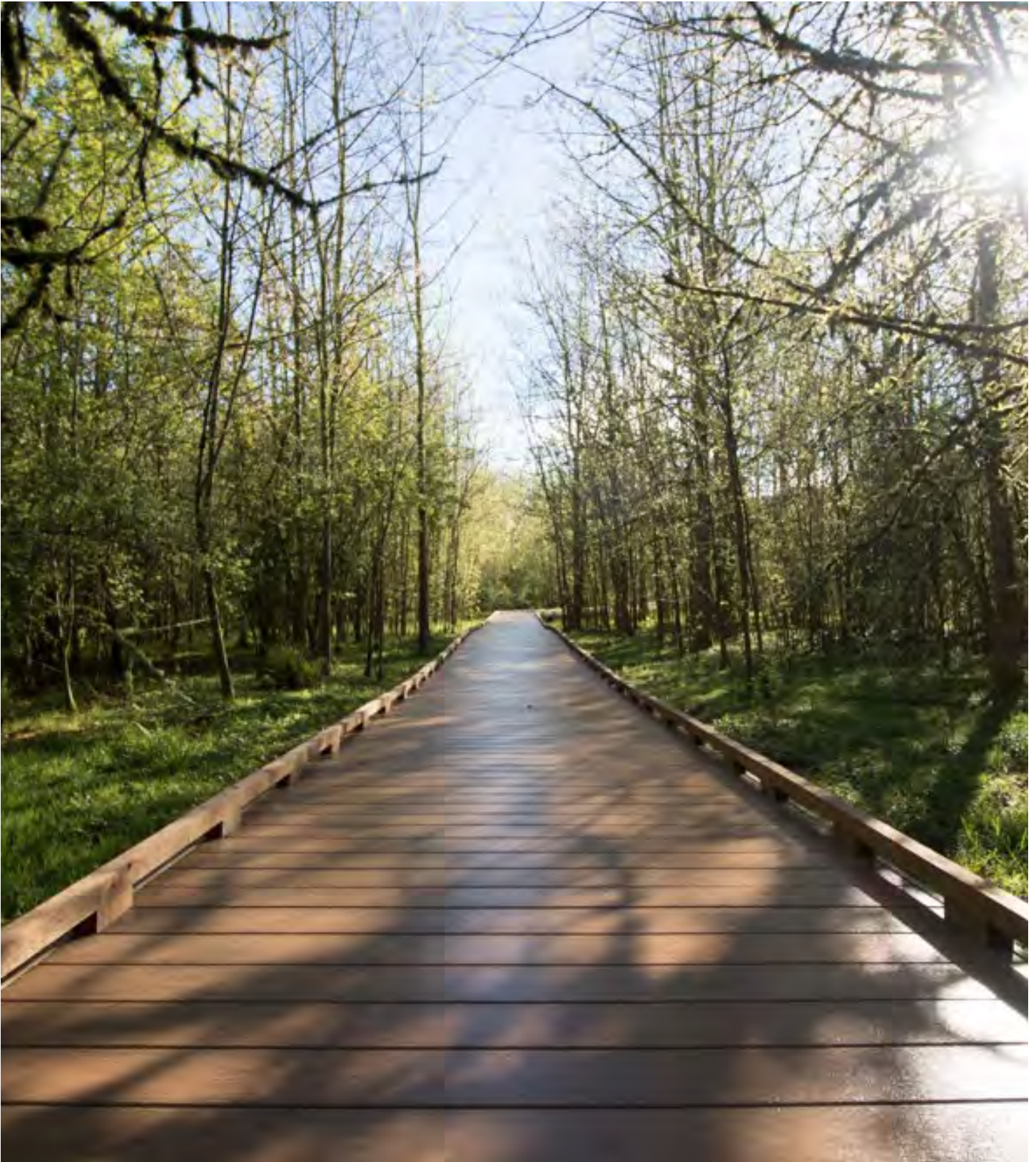
In addition to CAC meetings, the community-process included “pop-up” outreach events at area businesses, two community workshops (135 people attended), an online community workshop, two open houses and multiple information pieces provided through the Happy Valley News, two project videos, flyers, and the project web site. Project staff also provided briefings and updates to the Happy Valley Planning Commission and City Council throughout the project. The timeline on this page summarizes the process and outreach steps.



The adoption of the PV/NC Comprehensive Plan is a major milestone for the Core Area. But it is only the beginning. The area will develop incrementally as infrastructure becomes available, property owners decide to apply for land use permits, and follow-up planning is accomplished. If these pre-requisites occur, and the area grows at the rate close to forecast population growth for the area, it is estimated the PV/NC plan provides at least 25 years of land supply for the continued growth of Happy Valley.



VISION AND GUIDING PRINCIPLES



The vision and guiding principles describe the long range outcomes intended for Pleasant Valley and North Carver. They capture the visioning discussions held by the advisory committees in the fall of 2018, and were used to guide the development of the plan.

The Pleasant Valley/North Carver area is an integral part of the growing Happy Valley community, and a natural extension of East Happy Valley.

The natural beauty of the landscape is embraced, the ecological health of the area is preserved and enhanced through environmental stewardship, and nature is made part of every neighborhood.

The Carver riverfront has been transformed to include great public access and unique destinations.

The area is comprised of a network of walkable neighborhoods, vibrant mixed-use centers, and thriving employment areas.

The area is supported by a resilient and safe network of streets, transit service, infrastructure, high-quality schools, and attractive parks and trails.





Promote a Sense of Community. All development is planned and design to create a strong identity and sense of community in Pleasant Valley and North Carver.



Preserve and Celebrate Nature. Nature is protected, celebrated, and integrated into the community. Stream and habitat corridors are preserved and enhanced to ensure they can provide critical ecological functions. People can experience nature up-close through a network of parks and trails. People can appreciate nature from afar, in everyday situations, through views of rolling hills and forested buttes.



Form Walkable, Welcoming Neighborhoods. Neighborhoods are more than a collection of housing. Neighborhoods feel and function like villages: welcoming communities that make room for people of all ages, abilities, and life experiences. Within each neighborhood, housing options include family-sized homes, compact cottages, and livable townhomes and apartments where appropriate. Streets and blocks are designed for walking and local shops and services are within walking distance.



Create Vibrant, Mixed-Use Centers. People gather in town centers to shop, play, and celebrate as a community. Mixed-use buildings allow people to live in these centers, ensuring that streets are alive with activity both during the day and in the evenings. The centers are destinations because they are built around special places, such as the waterfront of the Clackamas River or the confluence of important streets.



Craft Distinctive Places. People perceive the communities in the plan area as distinctive places. Homes and buildings are designed to be varied and interesting. Gateways into the area and individual neighborhoods are marked with distinctive public art or monuments. Unique features are designed into corridors and centers to reinforce a sense of place.



Attract Local Jobs and Businesses. Residents have opportunities to live and work in the same community. Local jobs are available to people with a range of backgrounds and skills, and all pay a living wage. Businesses are attracted by unique advantages of locating in the area and reinforce the development of industry clusters.



Design a Resilient, Connected Transportation System. A robust network of streets and transit routes allow people to move efficiently in, out, and across the area. Streets are designed to both manage traffic flow and encourage walking, biking, and riding transit. Transportation infrastructure is built prior to or concurrent with development.



Ensure Regional Fit. The plan area is integrated with the regional transportation system, land use patterns, and public facilities network. The plan area is viewed both as a distinct, individual place and a part of a larger system of neighboring cities and rural areas.



Plan for Fiscal Health. The plan can be implemented because it addresses fiscal realities. Service providers—including transportation, sewer, water, stormwater, parks, schools, and parks—can build infrastructure to support development because funding mechanisms are aligned with needs and costs.



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EXISTING CONDITIONS AND LAND NEEDS

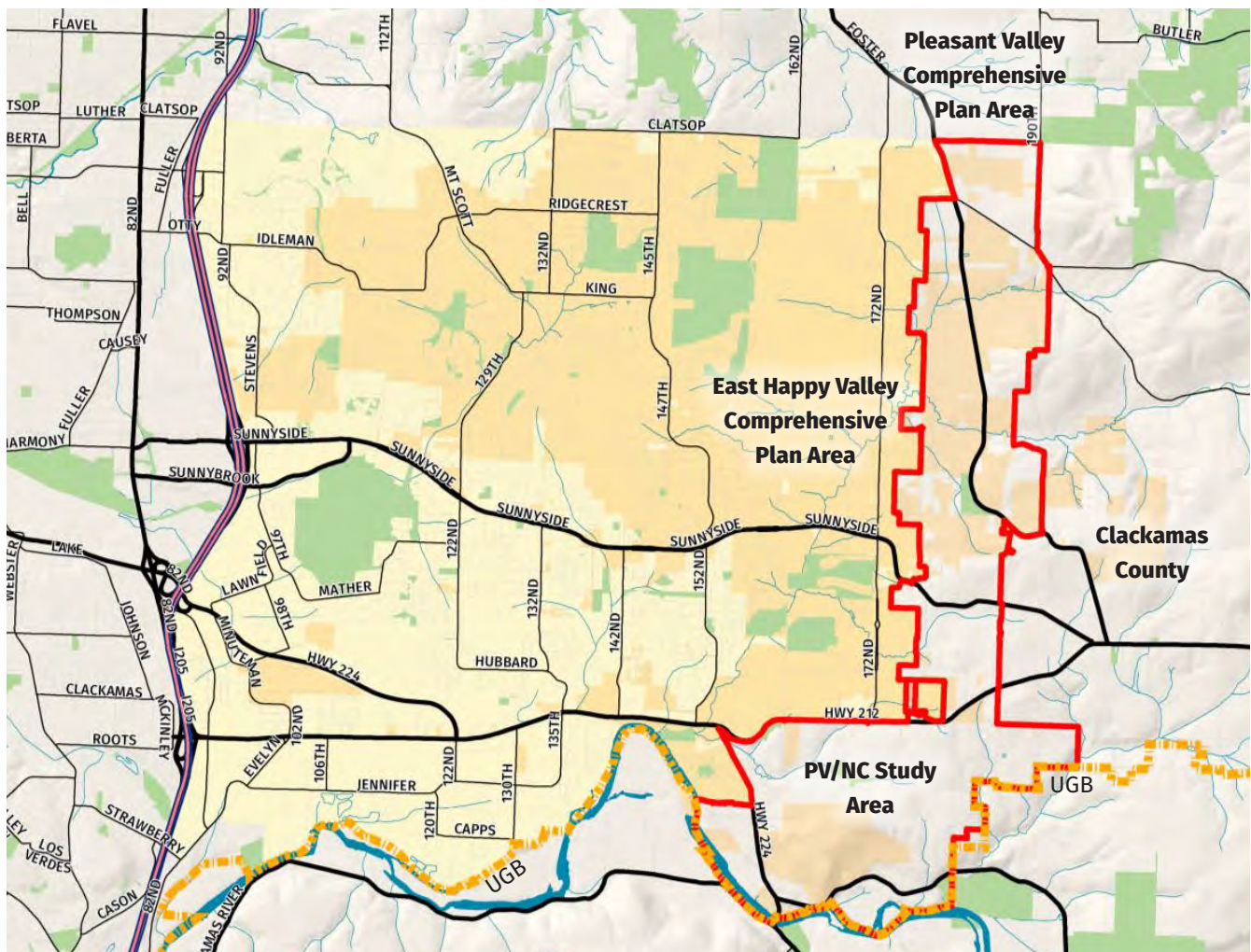


Regional Context. The Pleasant Valley/North Carver area is at the eastern edge of Happy Valley, on the east side of the Portland Metro region. It is within the Metro Urban Growth Boundary (UGB), bounded on the west by the City of Happy Valley, on the north by the City of Gresham, and on the south by the Clackamas River and rural reserves.

Local Planning Context. The 2,700-acre PV/NC Carver Comprehensive Plan is the next logical step in approximately 20 years of planning for the area. It is an eastward and southerly extension of the East Happy Valley Comprehensive Plan, which was

adopted by the City in 2009. Physically, the two comprehensive plan areas are part of the same landscape and the PV/NC study area is the eastern and southern portion of it. Other local planning efforts that have informed the PV/NC Plan include: Gresham's Pleasant Valley Plan District to the north; the 172nd Avenue/190th Drive Corridor Management Plan; the Happy Valley Parks & Recreation Master Plan; the Clackamas County Transportation System Plan; planning studies conducted for the former City of Damascus; and, utility master plans by Sunrise Water Authority and Clackamas Water Environment Services.

Figure 1. Plan Area Context



As of 2020, the project area contains...

2,705 Acres

1,685 Properties

1,735 Households (approx.)

3,390 residents

11,400 feet of riverfront

1 elementary school

1.4 acres of public parks

Highest elevation: **~770'**

Lowest elevation: **~75'**

Average parcel size: **1.6 Acres**

Largest ownership: **207 Acres**

Land with Steep Slopes,
Wetlands, or Other Constraints:
802 Acres

Land annexed to the City of
Happy Valley: **1,000 acres**



SE Foster Road



Carver Bridge (S Springwater Road)



SE Bel Air Drive



The Pleasant Valley portion of the PV/NC study area is known for its beautiful butte-and-valley landscape. Rock Creek flows through Pleasant Valley, with numerous tributaries branching off and forming greenspaces that are wildlife corridors and the location of major tree groves. Scouter's Mountain and the Butler Buttes frame the valley with forested hillsides that are the upper reaches of Rock Creek's local watershed. The buttes also provide a striking visual backdrop to the valley. One of the tributaries of Rock Creek (north of Winston Road) extends all the way east to Sunshine Valley near 222nd Avenue. See Figure 3.

Happy Valley has Comprehensive Plan policies and code standards that regulate development in and near stream corridors. The primary tool is the City's Natural Resources Overlay Zone (NROZ). As applied in the local development review process, the NROZ is intended to: protect and improve the natural resource functions and values that contribute to water quality and fish and wildlife habitat in urban streamside areas; protect and improve upland areas and habitat connectivity; and, allow and encourage nature-friendly development. This set of regulations will be used to help implement the PV/NC Plan.

Most of the North Carver area drains south to Richardson Creek and the Clackamas River. In this portion of the study area, the green spaces and riparian habitats are more edge conditions than the connective greenspaces in Pleasant Valley.

Figure 2. Pleasant Valley Landscape Study (Looking North)

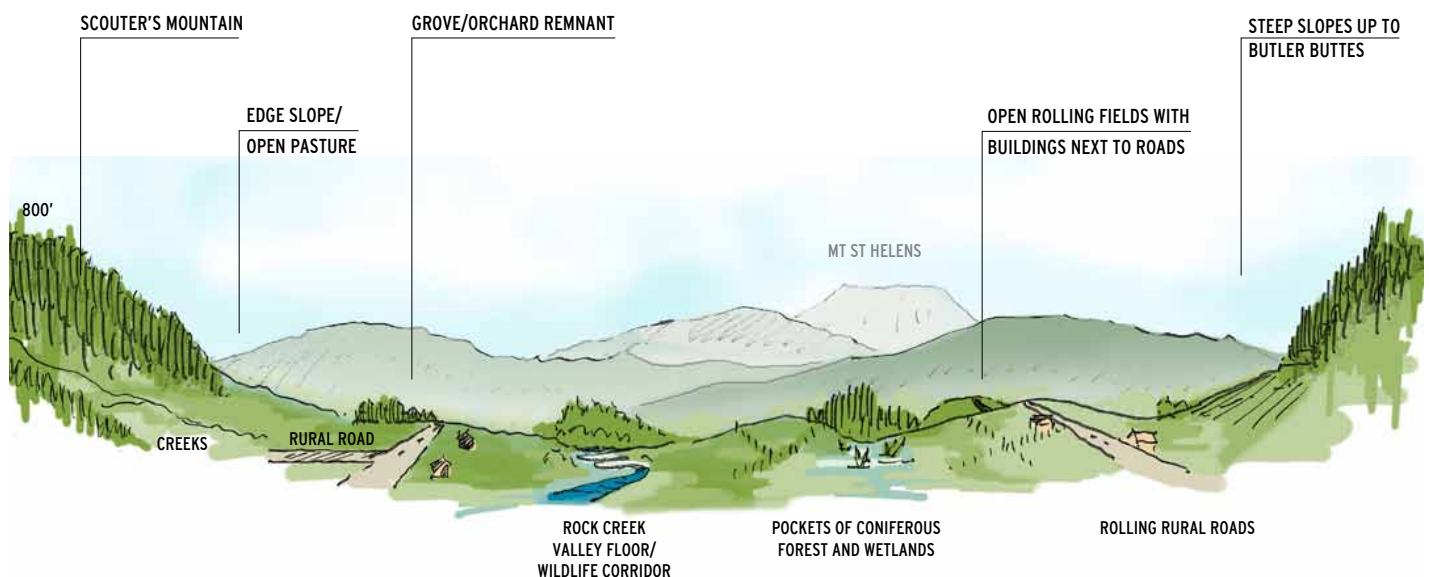
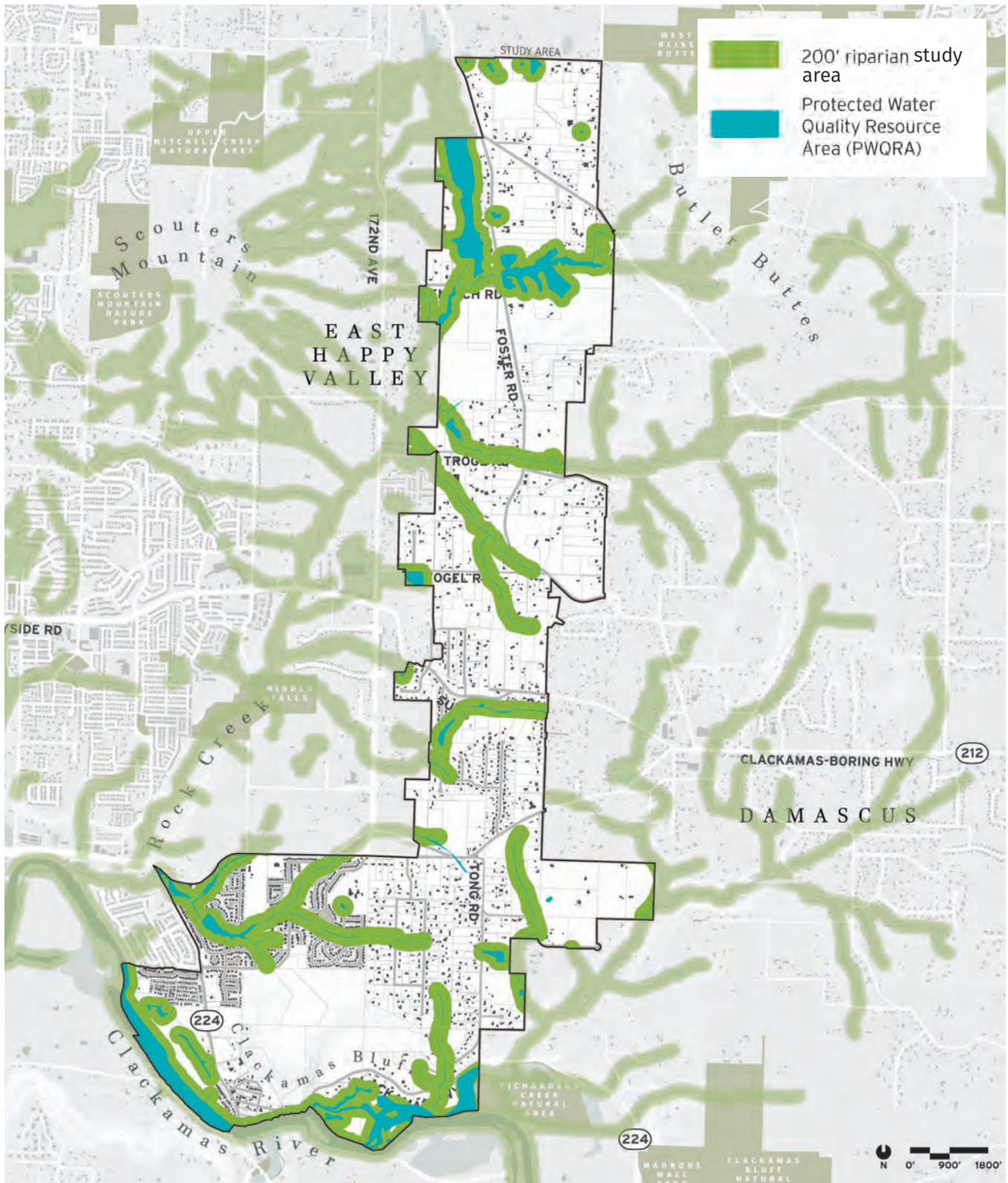


Figure 3. Riparian and Open Space Areas



A slope analysis was prepared to evaluate buildable lands and study how to integrate future urban land uses into the landscape. Figure 5 clearly shows the primary buttes – the Butler Ridge buttes and Scouter’s Mountain, with Pleasant Valley and other valley environs between them. The Carver Bluffs area above the community of Carver are also readily apparent, as are the stream-side slopes of Rock Creek, Richardson Creek and their tributaries. This beautiful landscape in Pleasant Valley and North Carver are a key part of the identity of the area, and, and amenity to be integrated into its urban future.

The City of Happy Valley has policies and code standards to regulate development on steep slopes. The primary tool is the City’s steep slopes development overlay (SSDO). The SSDO defines “conservation slopes” as areas of 25% and greater slope – these are areas where the hillside is protected and permitted development is very limited. The code also defines “transition slopes” as areas of 15-25% slope, where there is more flexibility, but permitted low density development must meet site design criteria. Overall, these regulations protect steeper areas because the City recognizes that they:

1. Are generally more difficult and expensive to serve with urban infrastructure as compared to less steep lands;
2. Provide wildlife habitat, tree canopy, and other environmental benefits;
3. Are located at the headwaters of watersheds that provide clean drinking water to downstream users, including Happy Valley residents;
4. Contribute to the scenic landscape of Happy Valley which is a strong part of the City’s identity and livability;
5. Are often adjacent to regulated natural resource areas and/or public green spaces; and
6. Can, if developed, cause harm to persons and/or structures via stormwater runoff, landslide, mudslide, tree windthrow, and other natural actions that may pose a hazard to the public health, safety and welfare.

The SSDO’s purposes, summarized above, are consistent with recommendations in the PV/NC Plan.

Figure 4. Carver Landscape Study (Looking East)

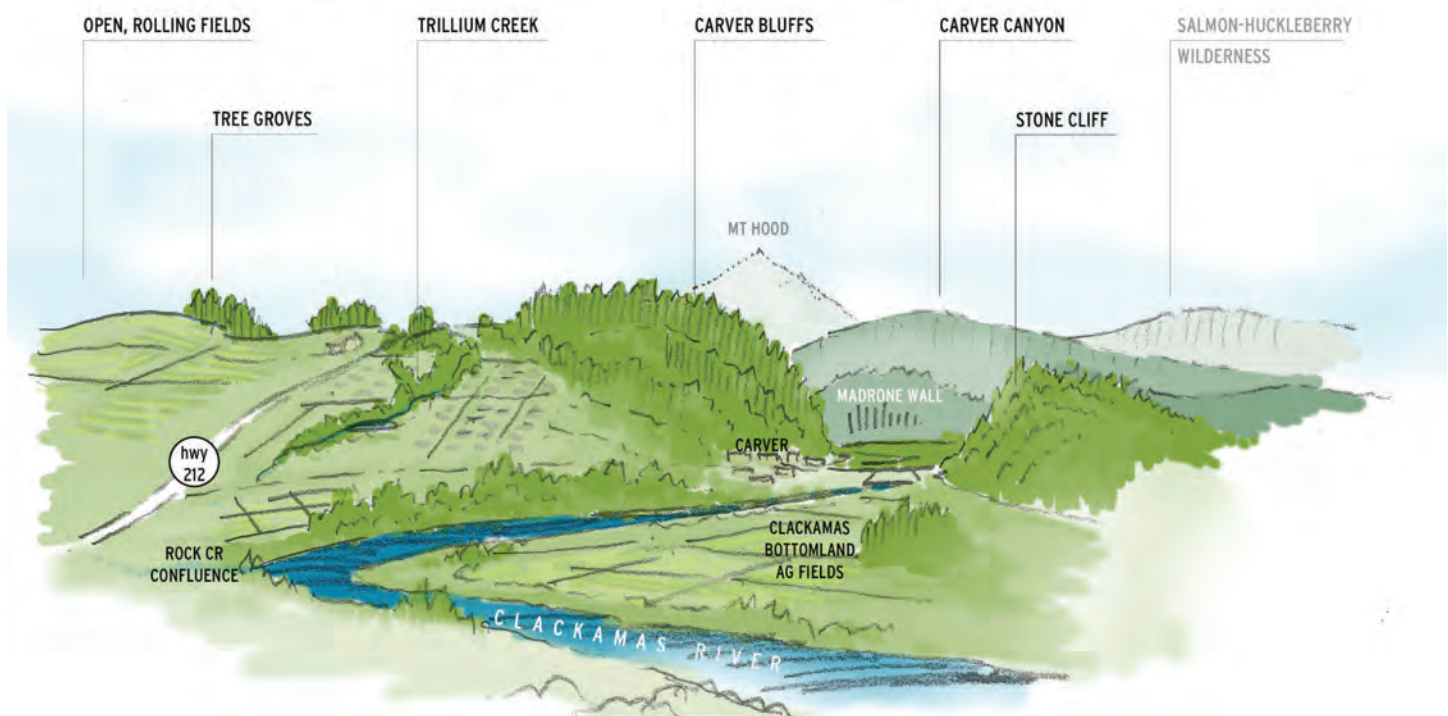
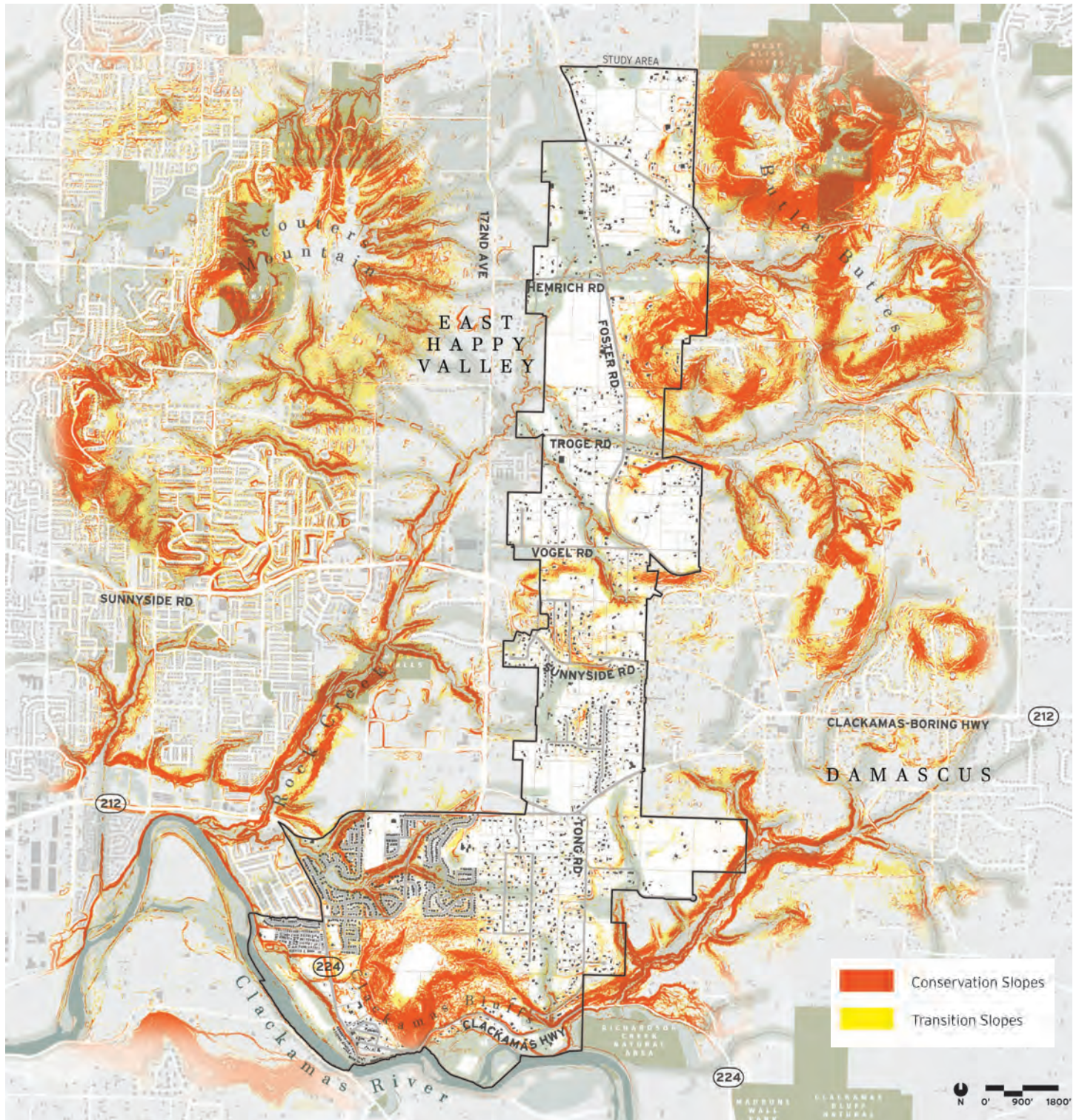


Figure 5. Steep Slopes



The project team prepared a Buildable Lands Inventory (BLI) for the project area to document potential buildable urban land supply for the project area. This inventory was used to plan for future land uses, estimate growth capacity, and support infrastructure analysis. Buildable lands are calculated by identifying and addressing developed parcels, environmental constraints, and other potential impacts to developability within the area.

Environmental Constraints

As described in the previous section, the City of Happy Valley regulates development on steep slopes, within the floodway and Special Flood Hazard Area, near wetlands and identified Habitat Conservation Areas (HCA), and near Protected Water Quality Resources (also known as Metro Title 3 areas). These constraints were removed from the estimated capacity of parcels in the area.

Existing Development

The PV/NC area includes several existing subdivisions and legacy neighborhoods in the southern portion of the study area. These neighborhoods are considered developed, though they may experience infill and redevelopment over time as the area builds out. Such neighborhoods may have “Covenants, Conditions, and Restrictions” (CCRs) that limit the type or amount of infill development.

Key Findings

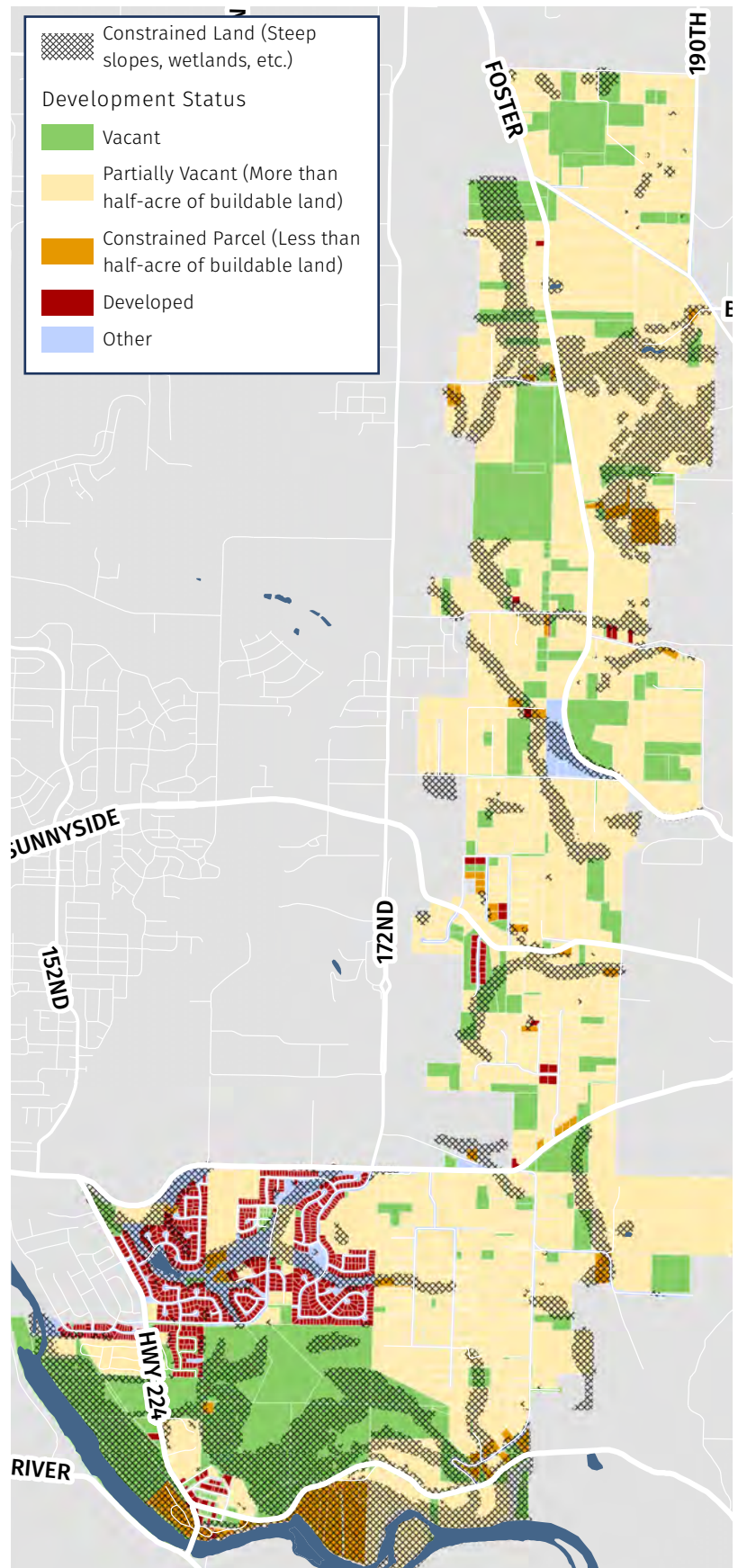
2,705 gross acres in the study area

827 parcels classified as either Vacant or Partially Vacant (out of 1,681 total)

1,492 acres of unconstrained land in buildable categories (out of 1,605 total)

1,044 net acres of buildable land, after 30% reduction for public facilities

Figure 6. Buildable Lands Inventory Map



In 1984, Clackamas County completed a countywide cultural resource inventory that was intended to provide documentation of all significant cultural resources in the county. Expanded survey information regarding the identified properties was added to the inventory in 1989-90. Through this inventory, 36 historically significant properties were identified in the Happy Valley/Sunnyside/Damascus area, 6 of which are located within the Pleasant Valley/North Carver Comprehensive Plan Area. Two of these six properties – Carver School and the John Byers Farm – are designated Clackamas County Historic Landmarks.

In 2007, additional historic resource survey work was conducted in the Plan Area by Archaeological Investigations Northwest (AINW) to fulfill federal requirements related to proposed roadway expansion and upgrades between I-205 and Rock Creek Junction. AINW identified 71 aboveground properties within the highway project area that were 45 years of age or older, including 8 located within the Pleasant Valley/North Carver Comprehensive Plan Area, and 9 located outside of but adjacent to the Plan Area. AINW did not find any of these 17 properties to be eligible for the National Register of Historic Places, generally due to loss of integrity and/or lack of architectural distinction.



Housing Trends and Projected Needs

Happy Valley is a rapidly growing area of the Portland Metro region. Population growth in Happy Valley far exceeds the rates for Clackamas County, the Tri-County Metro Region, and Oregon statewide growth rates. Happy Valley’s housing stock is predominantly single family detached, however, there is an increasing trend towards development of townhomes and apartments in recent years.

Home values in Happy Valley are stable and relatively high compared with similar markets in the Portland Metropolitan Area. Rental units have increased as a share of Happy Valley’s housing stock, moving from 5% of occupied housing units in the city in 2000 to 15% in 2016.

Based on Metro growth projections for the Pleasant Valley/North Carver Planning Area, a projected 4,361 additional housing units will be added in the area between 2015 and 2040. These housing units will take the form of single-family detached units on a variety of lot sizes, attached units such as townhomes and duplexes, small-scale multifamily units such as cottage clusters and courtyard apartments, and larger multifamily developments. The analysis of housing for the PV/ NC Plan projected housing by type, as summarized in Figure 7. The housing types are approximately 50% multifamily and 50% single family, as required by the Metropolitan Housing Rule (OAR 660-007).

Figure 8. Happy Valley Population Growth

	2000	2010	2017	Change, 2000-2017
Happy Valley	4,519	14,330	19,985	342.2%
Clackamas County	338,391	376,780	413,000	22.0%
Tri County Region *	1,444,219	1,644,635	1,811,860	25.5%
Oregon	3,421,399	3,837,300	4,141,100	21.0%

Figure 7. Pleasant Valley/North Carver Residential Land Needs

Housing Type	Dwelling Units
Large Lot Single Family Detached	438
Standard Lot Single Family Detached	1,147
Small Lot Single Family Detached	592
Townhomes, Plexes	671
Apartments (5+ units per structure)	1,513
Total	4,361

Source: Pleasant Valley/North Carver HNA, Dec. 2018. Projected housing is based on “Scenario B” in the HNA.



Projected Employment Needs

As part of the Pleasant Valley/North Carver Comprehensive Plan process, the project team evaluated the employment land needs within the market area. The Economic Opportunities Analysis (EOA) projected land needs that are expected for PV/NC Plan area to address local, regional and state planning requirements. This analysis includes:

- Evaluation of current real estate trends in retail and office lands within the Portland Metro area as well as primary market areas for the Happy Valley and PV/NC Plan area.
- Evaluation of state and regional data which identifies projected growth patterns in employment, office, and retail development in Happy Valley and the surrounding area.
- Analysis of Census and local market data to identify further socioeconomic trends that define the Happy Valley area.
- Recommendations that help inform a market-supportable development program for employment land needs in the Happy Valley area over a long-term planning period.

The technical analysis was originally prepared in 2018 using available data at that time. Draft findings were subsequently discussed and refined during the planning process.

The analysis included several scenarios for forecasted employment growth. Scenario A reflected current market patterns within the Happy Valley area and resulted in the lowest amount of expected employment for the plan area. Scenarios B and C reflected the enhanced business attraction that would result from the completion of the Sunrise Expressway Phase 2. Scenario B reflects a mid-point between scenarios A and C, and Scenario C reflects an upper-limit of potential 20-year job growth. See Figure 9.

Discussion with the project's advisory committees led to **Scenario B** as the preferred forecast for the plan. However, the advisory committees found it challenging to identify suitable locations for all the projected land needed. The resultant plan designations reflect an employment land supply between the Scenario A and B forecasts.

Figure 9. Pleasant Valley/North Carver Employment Land Needs

Land Use Classification	Scenario A	Scenario B	Scenario C
Commercial (retail, office, lodging)	23.7	27.2	39.5
General Industrial & Flex*	15.4	116.0	175.9
Public & Education (excl. open space & parks)	23.0	41.8	60.3
Total (unconstrained acres)	62.1	185.0	275.8

Source: Appendix B tables. *Note, Employment land need shown has been reduced by 17.6 acres to account for recent rezoning in study area west of 172nd Ave.



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PLAN CONCEPTS & RECOMMENDATIONS



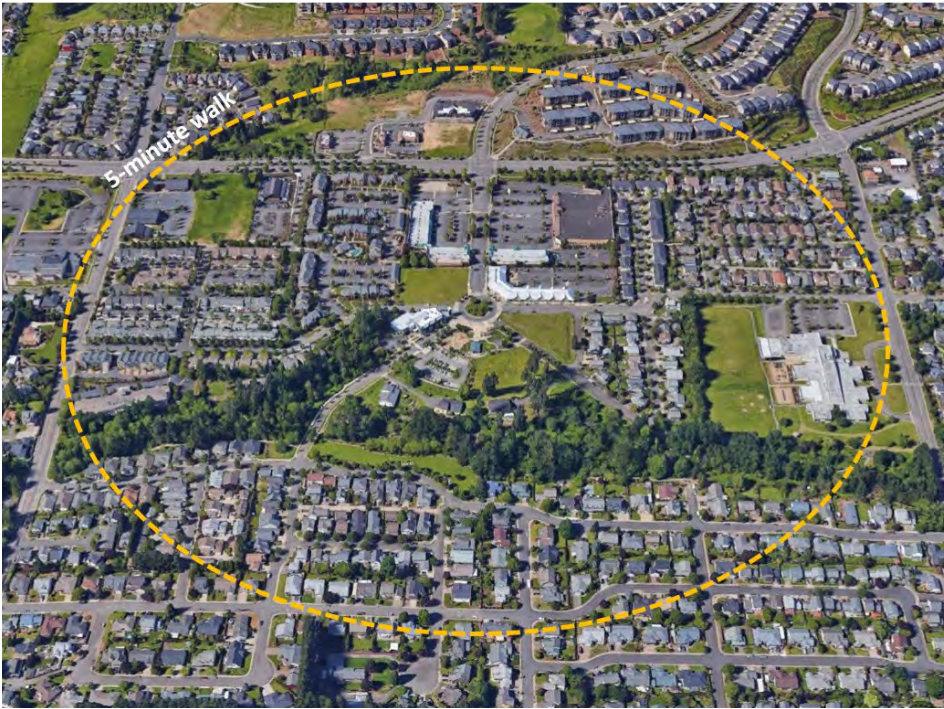
The PV/NC Comprehensive Plan has an overarching intent to create walkable neighborhoods. This concept, also a part of East Happy Valley, recognizes that each residential development is part of a larger community. The “walkable” quality of the planned PV/NC neighborhoods will result from ensuring they include: a connected street pattern; community destinations such as parks and schools; proximity and access to nature; and well-designed housing. The PV/NC area will have a wide variety of neighborhoods, tailored to their setting. Some neighborhoods will be in sloped areas, with larger lots and great views. New neighborhoods in valley locations will be an easy walk or bike ride to services, and will have a variety of single-family homes, duplexes, cottages, and townhomes. In all cases, the PV/NC neighborhoods are intended to have walkability be the foundation of their high quality of life.

The following principles were used to plan walkable neighborhoods for the PV/NC Plan.

- Organize new development to “fit the land” and create recognizable places with a distinct identity
- Tailor housing types, mix, and density to each neighborhood
- Create a robust network of connections between neighborhoods (including connections to East Happy Valley)
- Provide easy access to parks and schools for each neighborhood
- Provide walkable access to neighborhood green spaces, commercial centers, the river, and other destinations
- Celebrate and protect the natural areas and habitat within and between neighborhoods

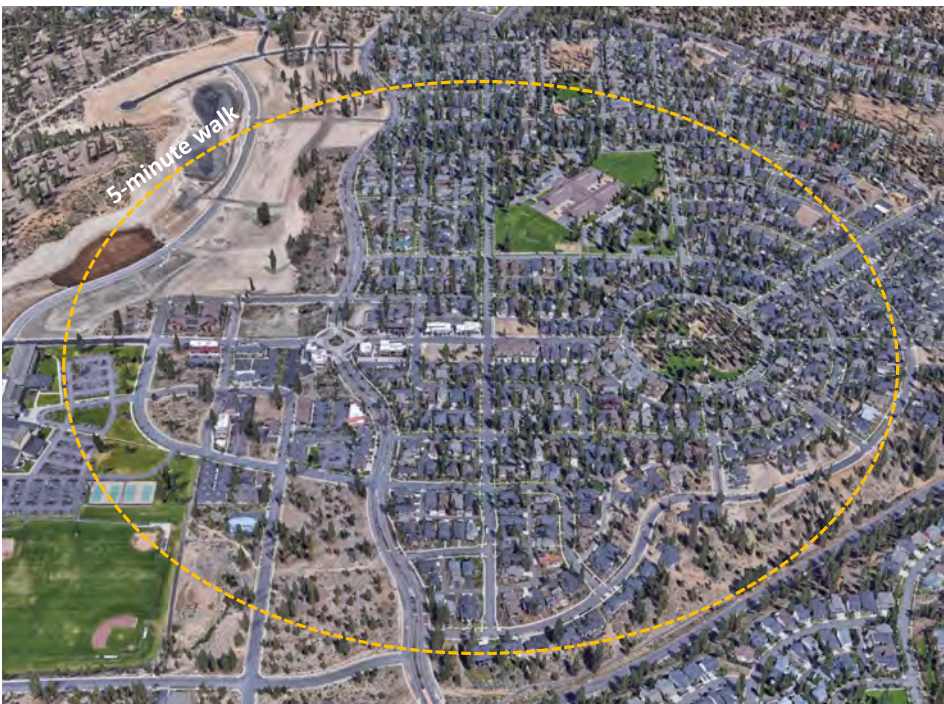


Figure 10. Walkable Neighborhood Examples



**Walkable Neighborhood Example:
Sunnyside Village**

Happy Valley, OR



**Walkable Neighborhood Example:
Northwest Crossing**

Bend, OR



The Land Use Concept Figure 12 illustrates the generalized land use plan for the study area. This map was the initial level of detail used for discussions with the PV/NC advisory committees, and in community workshops.

The Land Use Concept applies Happy Valley's hierarchy of land use districts, which takes into account topography, natural resources, existing development, transportation, complementary land use relationships, and other considerations. The Land Use Concept map is a plan for:

- **Walkable neighborhoods.** The walkable neighborhood areas were used to shape boundaries of land use districts, helping to reinforce the natural and physical elements—stream corridors, major streets, buttes—that will contribute to the identify of each existing and future neighborhood.
- **Accommodation of projected employment and housing needs.** The map designates sufficient buildable land to each category of land need, including employment/industrial, commercial, and a range of residential lands that allow for a diverse set of housing types.
- **Higher densities near mixed use centers.** Higher density residential districts are located in close proximity to existing centers (near 172nd Avenue and Sunnyside Road) and two new mixed use centers (the Pleasant Valley Downtown District and Carver Riverfront District). This pattern supports walkability, commercial vitality, and sets the stage for future transit service to these areas.

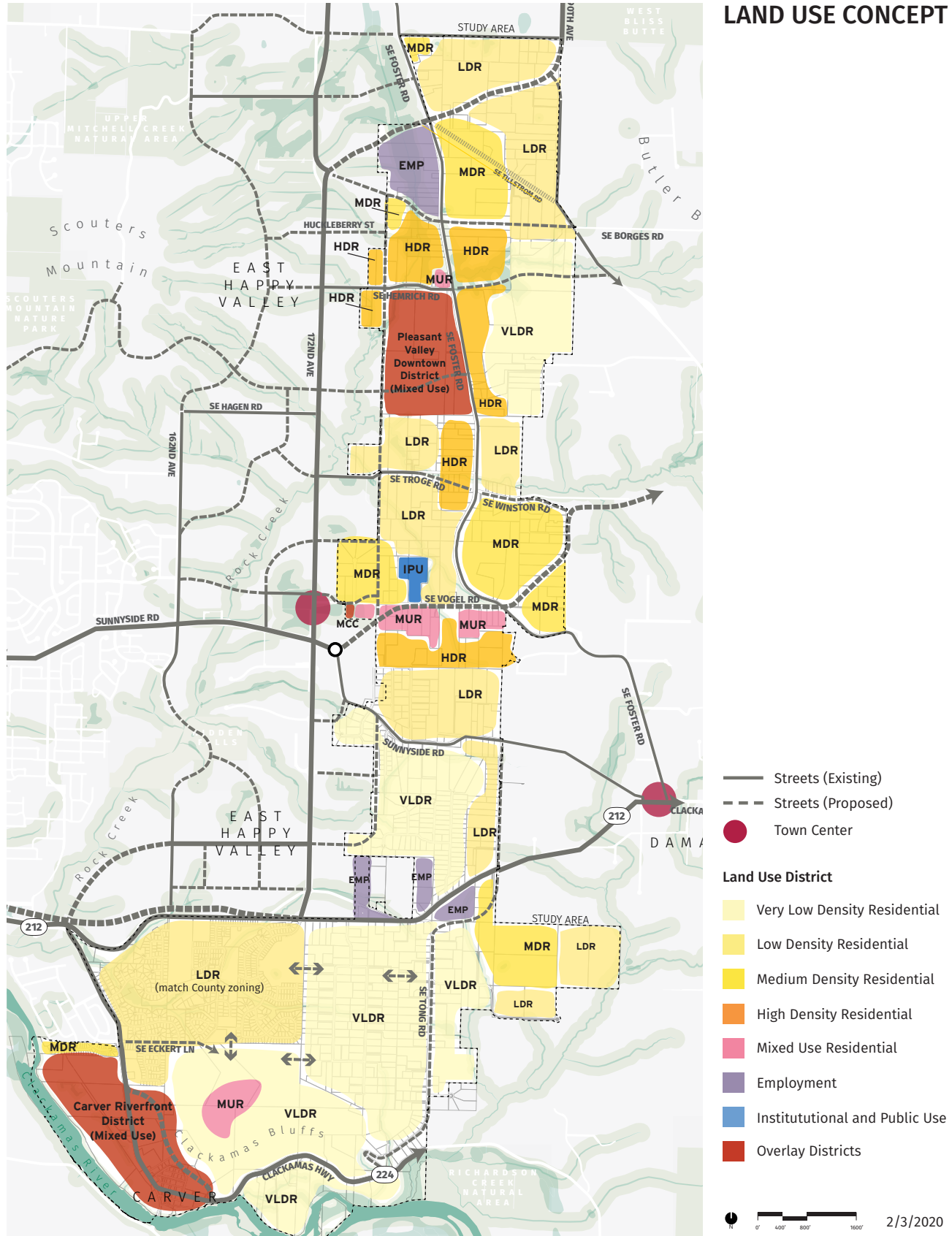
- **Lower densities in constrained areas.** Radiating out from mixed use centers, residential densities gradually decrease in areas that have steep slopes and sensitive environmental resources.
- **Transitions to, and incremental growth in, existing neighborhoods.** The Land Use Concept generally provides transitions of density between future neighborhoods and existing lower density areas. Within existing neighborhoods, incremental infill and redevelopment change is envisioned as infrastructure becomes available.

Figure 13 is the Land Use Concept with natural resources highlighted. This map illustrates two important aspects of the plan:

1. "The natural beauty of the landscape is embraced, the ecological health of the area is preserved and enhanced through environmental stewardship, and nature is made part of every neighborhood". (PV/NC Vision statement).
2. Note City policies and code standards regulate development in natural resource areas (e.g. streams and wetlands), flood hazard areas, and on steep slopes.



Figure 12. Land Use Concept



The PV/NC Plan includes a new mixed-use center to be located at the southwest quadrant of Hemrich Road and Foster Road. The vision for this center is that it is the future home of Happy Valley's downtown, known as the Pleasant Valley Downtown District.

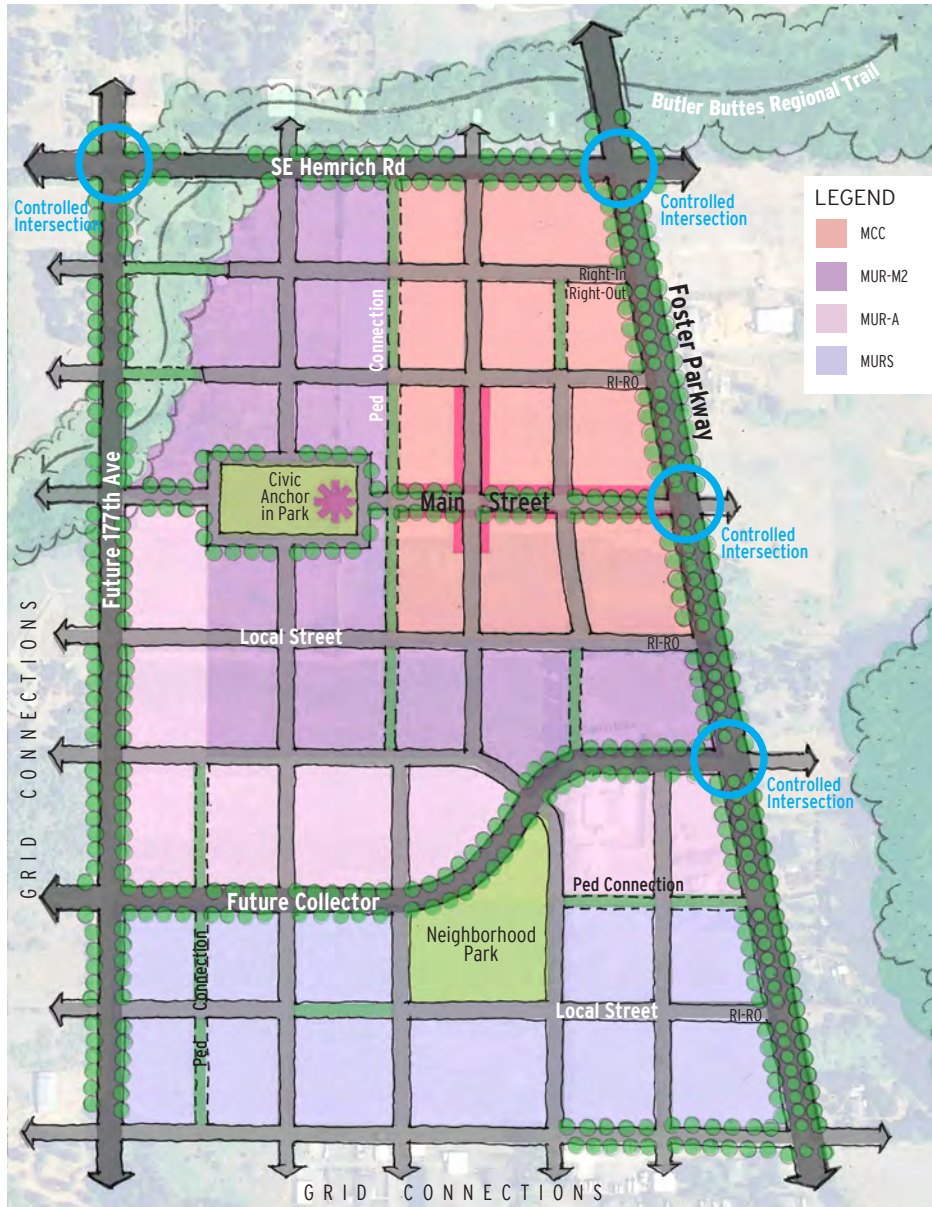
The Pleasant Valley Downtown District will include:

- **A new Overlay Zone and Master Plan** that guides the land uses, urban design, public spaces, local circulation, transition between uses and neighboring areas, community amenities, and other elements needed for a successful downtown.
- **A mix of commercial, residential, employment and public uses.**
- **A mix of medium, high density and mixed-use housing**, such as apartments, condominiums, townhomes, triplexes and duplexes, and cottage clusters. The master plan will include a well-designed configuration of different housing types and densities, to emphasize variety and avoid concentrations of any housing type in any one location.

- **Public uses.** When the City is locating a new public use (e.g. library or community center), or working with community partners to find a site for one, the City will consider the Pleasant Valley Downtown District. If possible, a public use shall serve as an “anchor” use for the Downtown.
- **A Main Street.** The Main Street will be a highly pedestrian-oriented and walkable street, through the heart of the downtown, implementing design guidelines described in the Overlay.
- **Community gathering spaces** such as plazas and parks.
- **A network of walkable blocks**, with on-street parking and buildings oriented to streets with ground floors well-designed for pedestrian activity.
- **Safe, direct and convenient** street and pedestrian connections to facilitate easy access to and from adjacent neighborhoods.
- **Connections to the trail network.**
- **“Happy Valley Style”** architectural design.



Figure 14. Pleasant Valley Downtown District



Parkway Edge



Gateway/Roundabout



Mixed-Use Main Street



Commercial Uses



Integrated Neighborhood Park



Multi-modal Walkability



Civic Anchor in Park

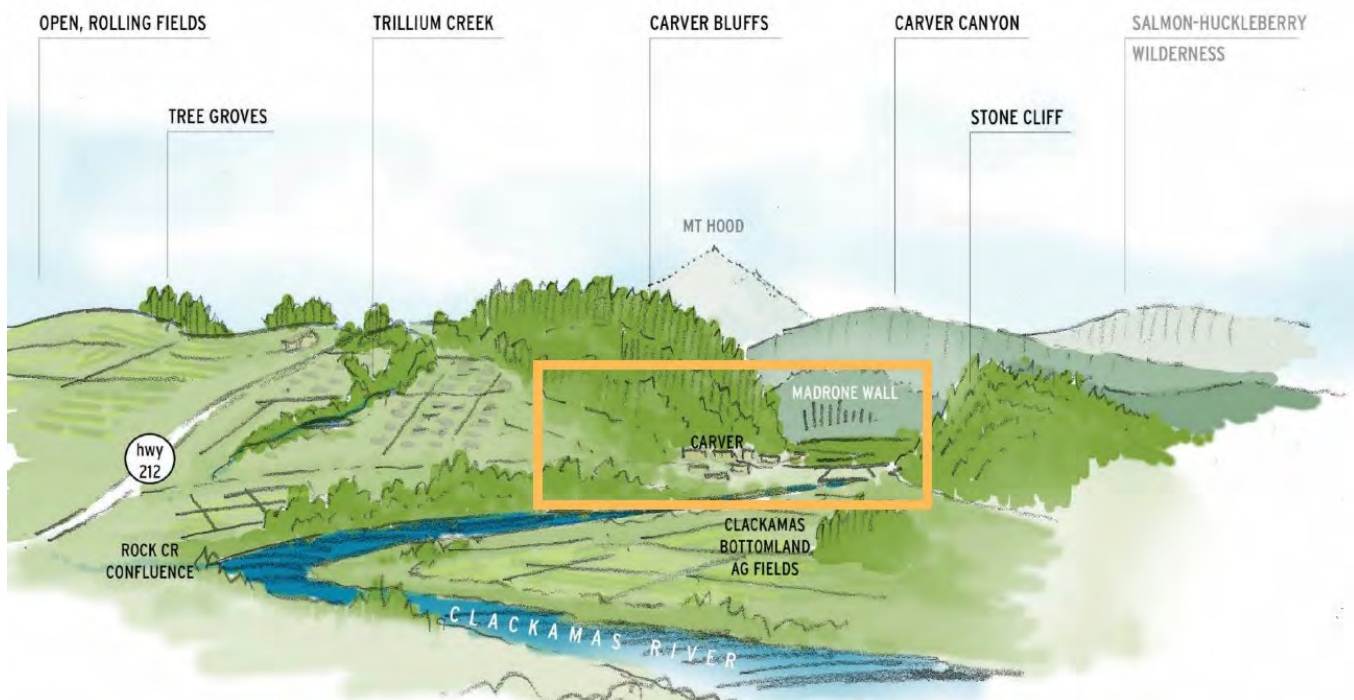


The City of Happy Valley has high aspirations for the future of Carver. The City's vision is to create a unique, mixed-use riverfront district that is enjoyed by local residents, the larger Happy Valley community, and the region.

The beauty of the Clackamas River and surrounding buttes, coupled with the historic significance of Carver, are the foundation for this vision. Over time, Carver will evolve to include excellent access to the river, a large riverfront park, trails, restaurants and other uses that face the river, and a historic core with retail shops and a public space. Mixed use buildings, apartments, and townhomes will create lively streets and provide an opportunity for many people to live near these amenities.

There are challenges – starting with the dominance of Highway 224 through the area and the congestion associated with the bridge and Hwy 224/Market Road junction. The City's solution is to realign Highway 224 to the north and east, allowing through-traffic to flow along the edge of the district and providing greater ease of pedestrian access to and from the riverfront. This proposed alignment is conceptual in nature, and will require coordination with ODOT and other stakeholders to determine its feasibility, costs, and potential funding mechanisms.

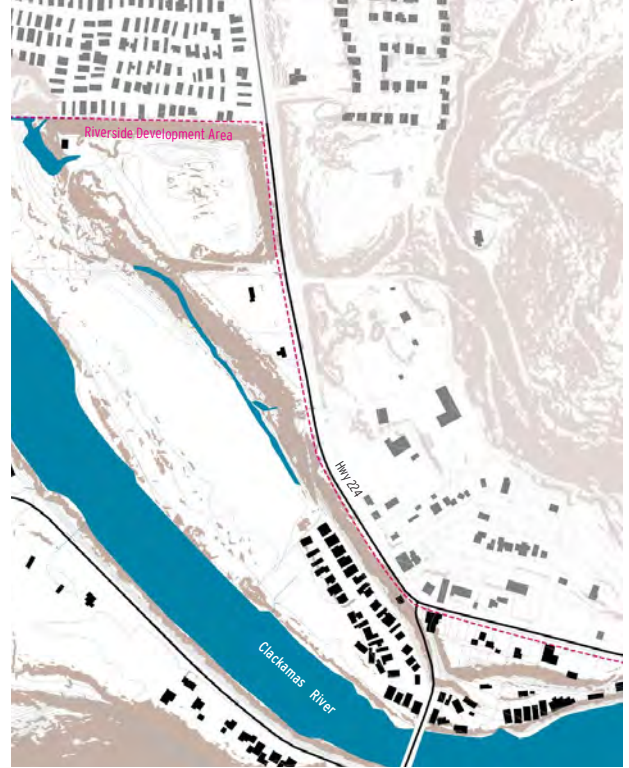
The images on the following pages summarize the Carver Riverfront District analyses and site studies that were prepared during the PV/NC process.



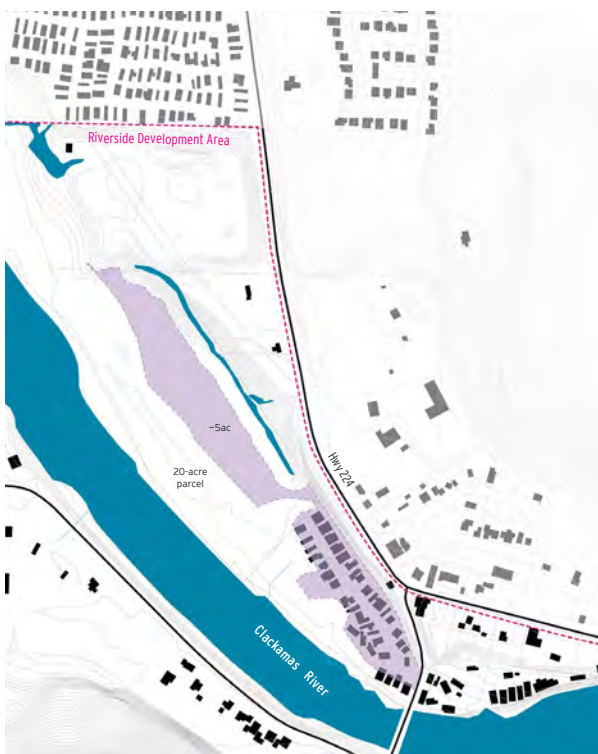
Carver Riverside Constraints: Vegetated Corridors



Carver Riverside Constraints: Conservation Slopes



Carver Riverside Constraints: Least Constrained Land



Carver Riverside: Carver in 2020



Figure 15. Carver Opportunities and Constraints

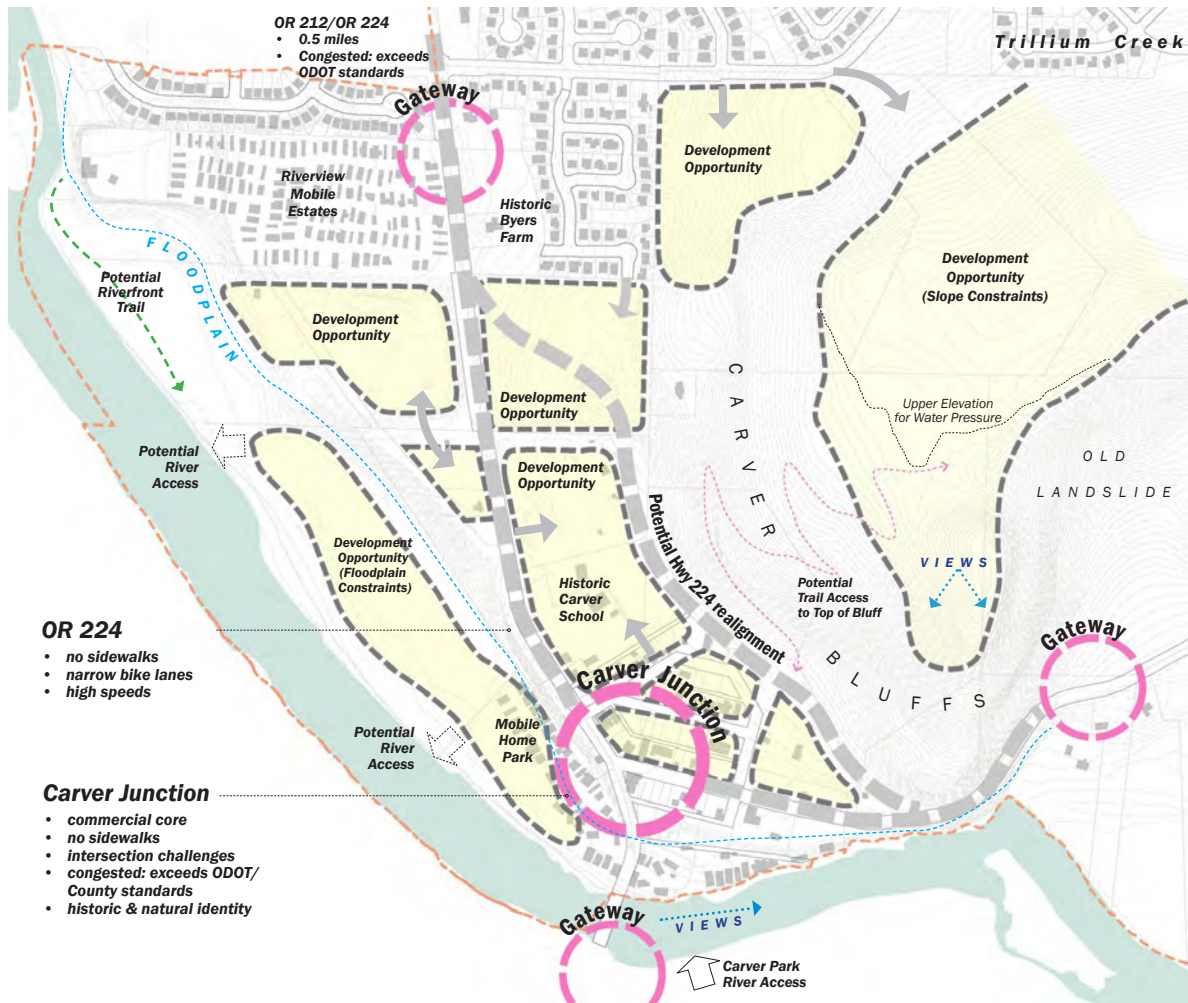
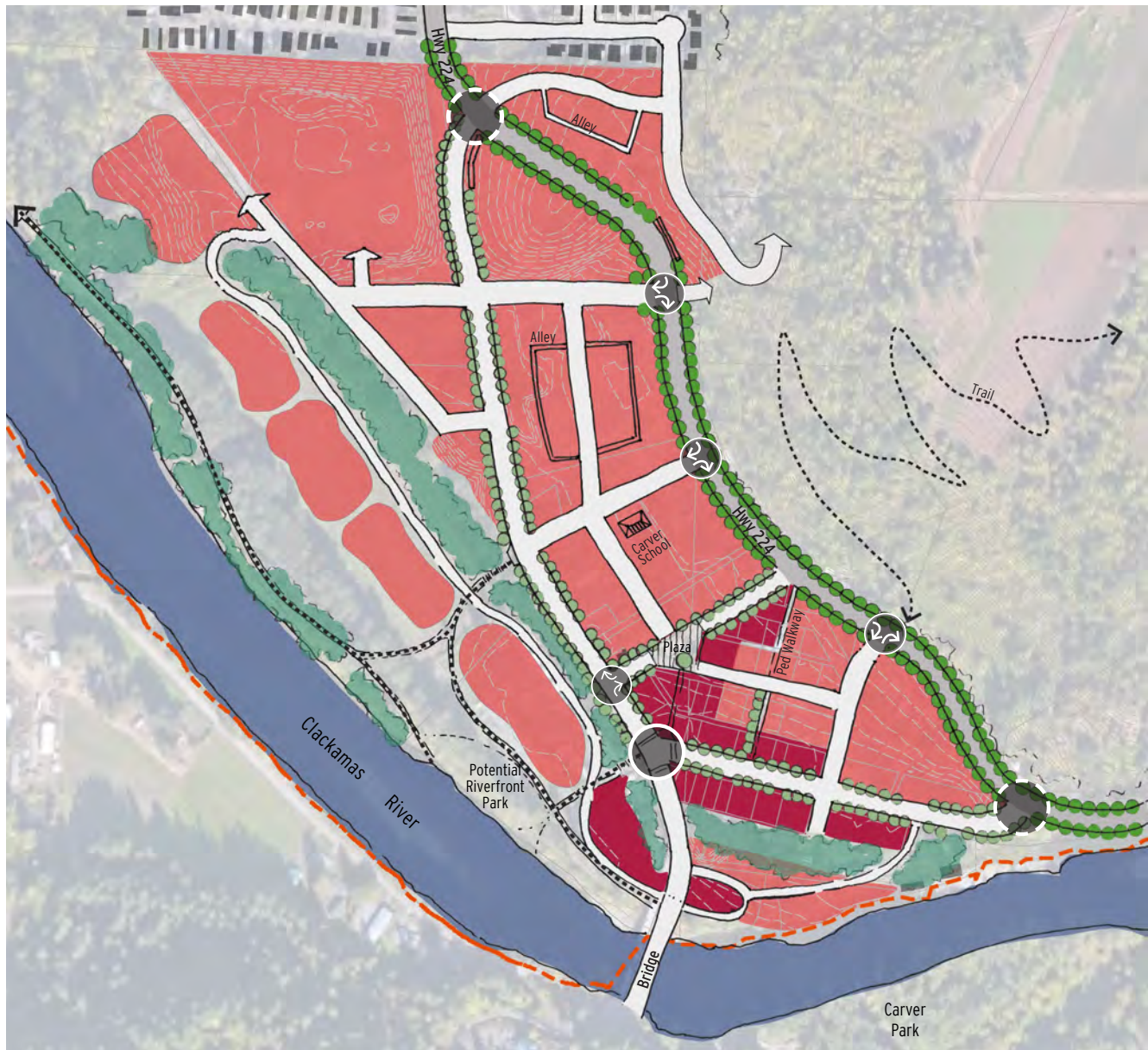


Figure 16. Riverfront Precedents



Figure 17. Carver Riverfront District Site Study



LEGEND

- Residential/Commercial Mixed-Use
- Commercial
- P Potential Public Parking Facility
- Existing Traffic Signal
- Potential Traffic Signal
- ↻ Right In / Right Out
- N
- 0' 100' 200' 400'



The street plan for the Pleasant Valley/ North Carver area is shown in Figure 18. Roadways with a functional classification of collector, arterial, and neighborhood street, are shown—the local street network will be established over time by development. Development code standards will guide the creation of this fine-grained local street system to implement a connected, walkable series of neighborhoods.

North-south connectivity is provided by 172nd Avenue on the western edge of the study area and by Foster Road (see next page). Major east-west connections include Cheldelin Road, Hemrich Road, Sunnyside/Vogel Roads, and OR Highway 212.

Collector streets are spaced approximately every one-half mile, as required by the Happy Valley Transportation System Plan. The Plan includes the eastward extension of Sunnyside Road to Vogel Road, which would eventually continue east to 222nd Avenue. This arterial corridor is needed to reduce reliance on OR Highway 212—it will be implemented over the very long-term growth of the area.



SE Foster Road



Highway 212



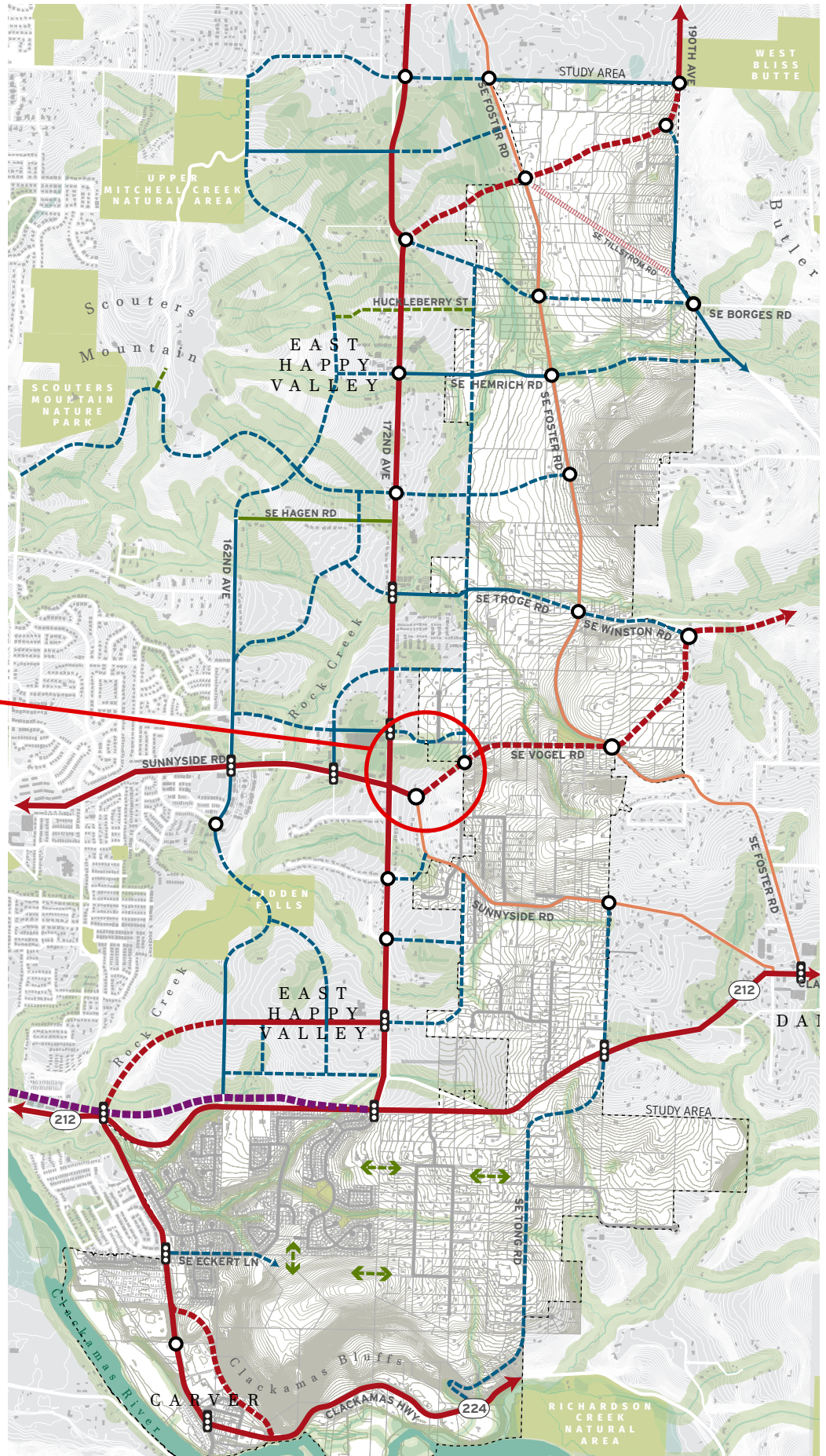
SE Vogel Road

See Transportation System Plan for refined street alignments

Figure 18. Street Plan

LEGEND

- Expressway (Proposed)
- Major Arterial (Existing)
- - - Major Arterial (Proposed)
- Minor Arterial (Existing)
- Collector (Existing)
- - - Collector (Proposed)
- Neighborhood Street (Existing)
- - - Neighborhood Street (Proposed)
- Existing Local Street
- - - Remove Roadway
-  Signalized Intersection
-  Roundabout
-  Neighborhoods



The alignment of Foster Road through the study area will serve as a greener, friendlier, and more human-scale north-south alternative to 172nd Avenue. The three-lane “parkway” cross-section of Foster Road serves as a minor arterial intended to move vehicles, bicycles, and pedestrians. The west side of the road will contain a multi-use path and significant tree plantings. In some areas, such as the Pleasant Valley Downtown District, the cross section will include urban-scale amenities such as street furniture and paved pedestrian area. Where feasible, a planted median and stormwater facilities will aid in stormwater management. Emergency parking areas will also be provided.

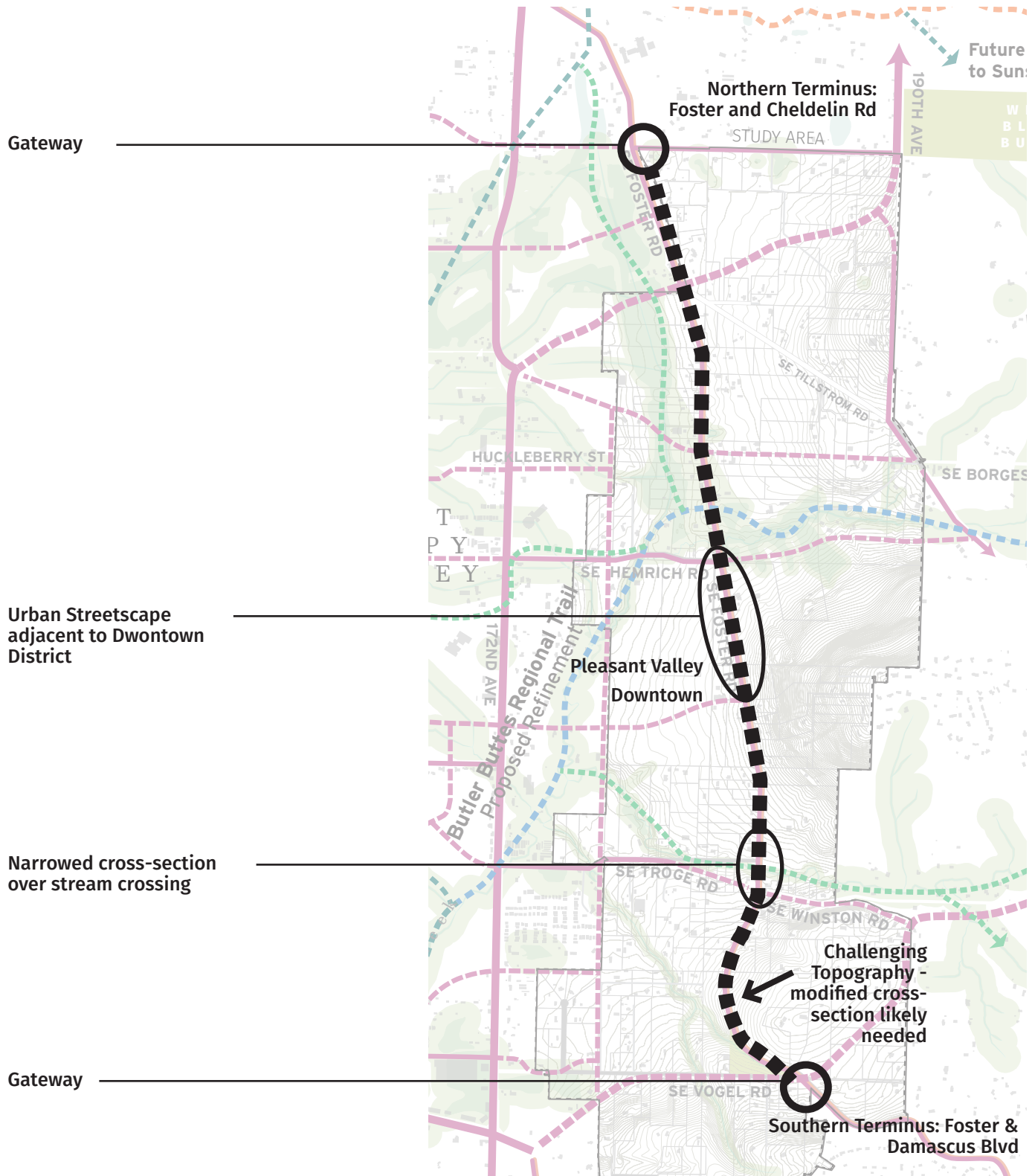
The following principles were used to prepare the concept plan for the Foster Road Parkway:

- Foster Road will be a multi-modal facility - safe, connected, and usable by all road users.
- The goal of the parkway design is to leverage Foster Road’s role as a gateway into the Pleasant Valley area and a special street that connects the neighborhoods in the area. The design will create a comfortable environment for walking, a safe facility for biking, and an aesthetically appealing experience for drivers. The parkway will also help to contribute to a unique identity for the Pleasant Valley area.
- The design of the Foster Road Parkway is intended to be flexible to meet local topographic situations and support adjacent land uses.

Figure 19. Recommended Foster Road Cross-Section (Looking North)



Figure 20. Foster Parkway Extents & Concepts



During the planning process, the advisory committee envisioned a vibrant mixed-use district for the Carver Riverfront area, complete with a large and well-utilized riverfront park. The current location of OR Highway 224 through Carver presents a barrier to this vision—which includes a low-volume and low-speed street network throughout Carver that would maximize safety and comfort for residents and visitors. Relocating the highway to the north and east will also greatly improve the operations of the OR Highway 224/Springwater Road intersection.

Figure 21. Proposed Highway 224 Realignment

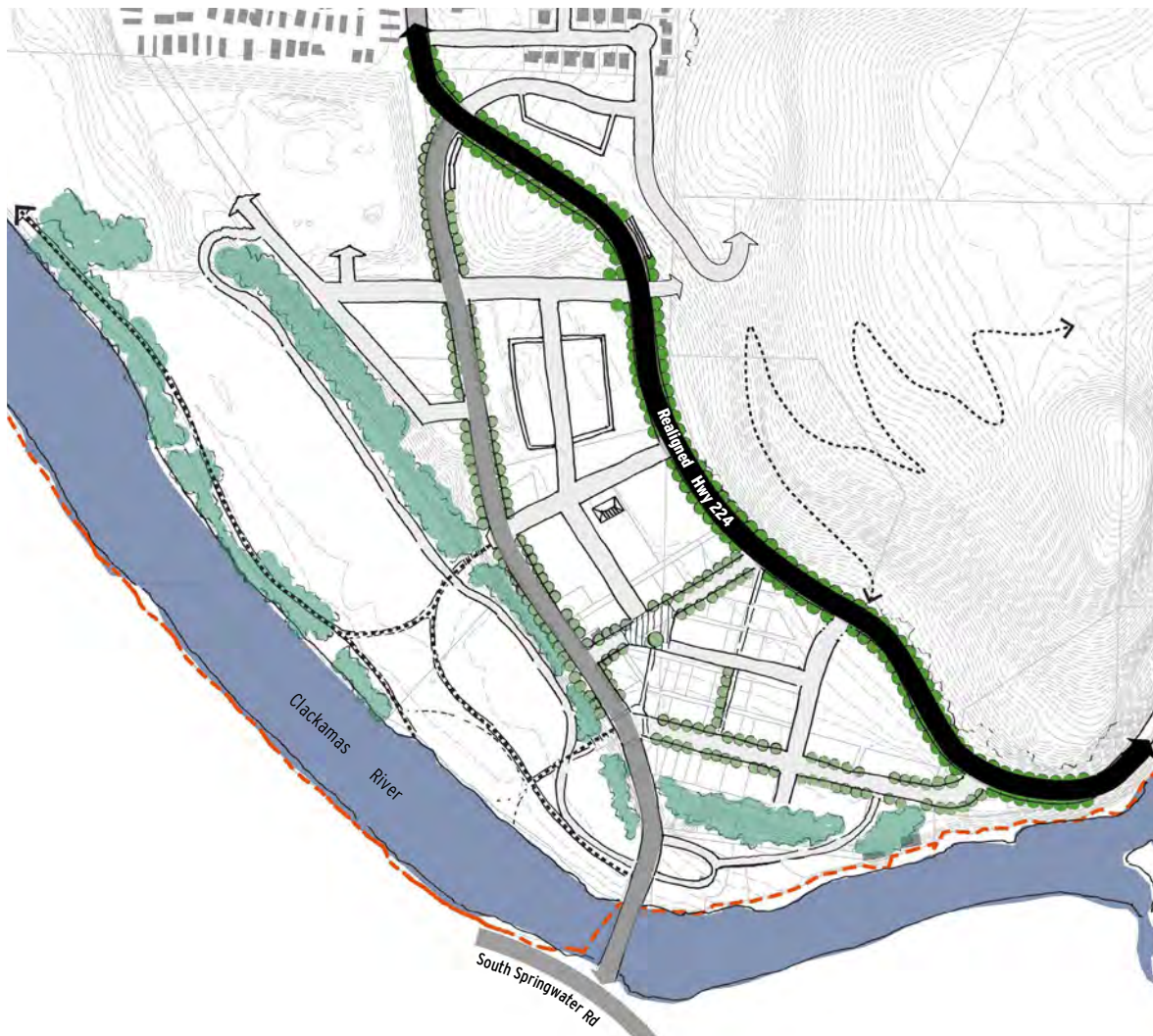
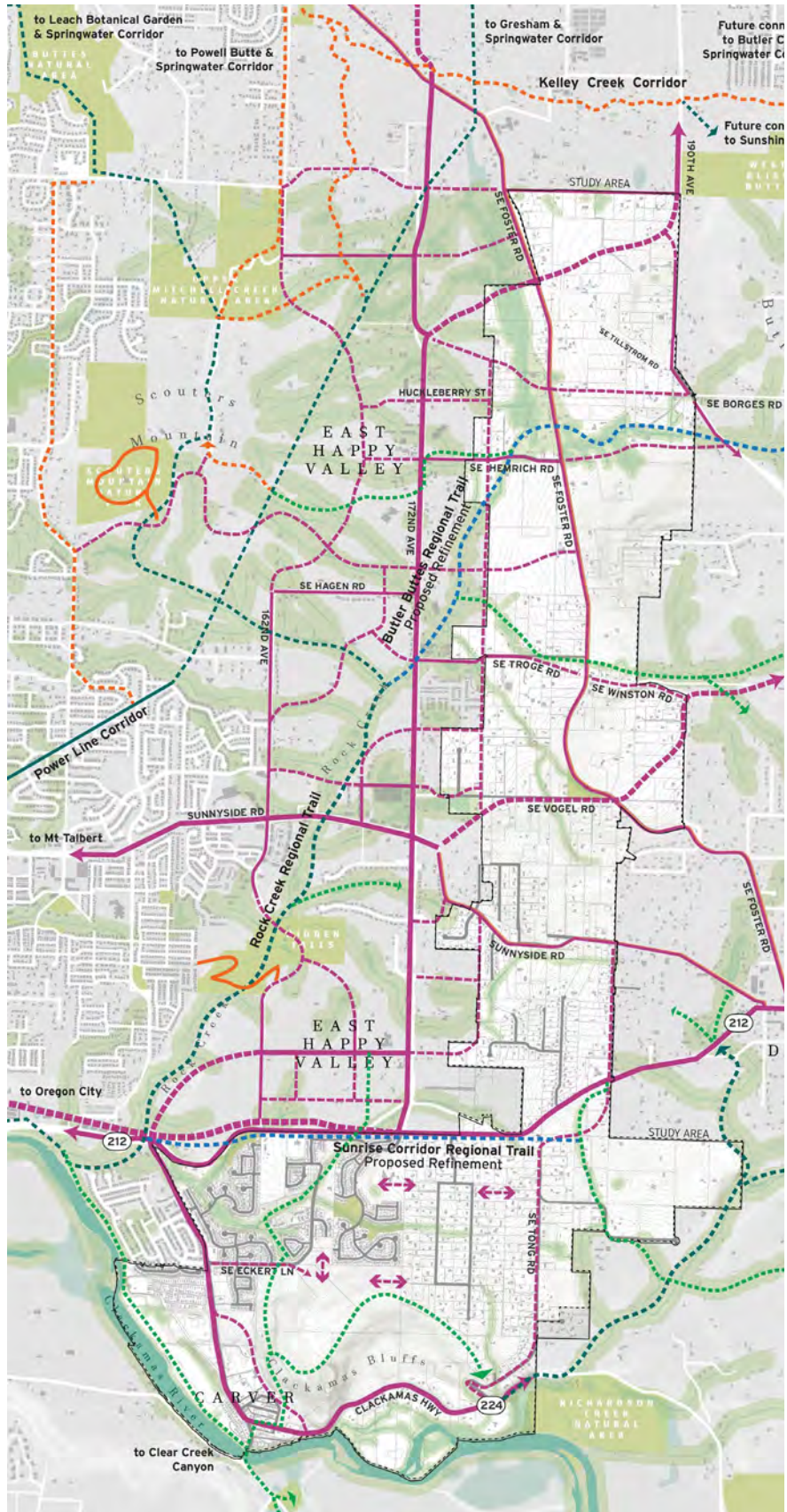


Figure 22. Trail and Bikeway System

The Pleasant Valley/North Carver area is planned to include a robust trail network, which will highlight the natural amenities of the area and connect to the significant regional trail system. The area's many creeks and drainages provide great corridors for off-street trails. If properly designed and maintained, these trail systems can also serve as wildlife corridors and natural habitat areas.

The Kelley Creek corridor lies to the north of the area, with future connections to Powell Butte, the Springwater Corridor, and the Butler Creek corridor. The Butler Buttes Regional Trail connects to the Power Line Corridor Trail and the Kelly Creek Trail System to the north.

In addition to a network of trails, the roadways within the Pleasant Valley/North Carver area will provide connectivity for pedestrians and bicycle travel.



Parks and open space are the foundation of a healthy recreation system and provide opportunities for residents of all ages to meet, play, grow, and thrive. There are few existing, developed parks in the PV/NC area, but some open spaces are owned by local governments or Metro.

A connected system of parks and open space are a priority of this plan. There is a current need for 21.5 acres of developed parkland, which is projected to increase to 91.2 acres by 2040. If each community park ranges in size from 20-30 acres, depending on desired recreational needs, at least one new community park site should be developed and acquired in the near future. By 2040, additional community parks should be provided to serve the PV/NC study area. The PV/NC Parks Concept designates two potential community parks. The northern community park will be located near the Pleasant Valley Downtown District, to take advantage of the area's flat land, planned mixed use and higher density development, and transportation options. The southern community park will be a new riverfront park in the Carver Riverfront District, capitalizing on the unique and scenic qualities of the Clackamas River and Carver area.

The Parks Concept also includes eleven neighborhood parks. These parks are primarily "walk-to and bike-to" facilities serving the planned neighborhoods around them. They should be located where there is convenient access, especially by foot, and central to households within ¼ to ½ mile. Wherever parks can be located adjacent to natural resources and trails, that should be done. The City supports the co-location of parks, stormwater facilities, trails, and open spaces.

Figure 21 shows the approximate center of "target acquisition areas" for new community and neighborhood parks. Figure 21 is conceptual and not intended to denote specific sites for parks.

As Happy Valley explores acquisition targets for parklands, some consideration should be directed to the 14-acre Vogel Road open space currently owned by NCPRD and the intervening parcel between this site and the school district property to the west.

Neighborhood Park Examples

1.5-5 acres in size

8-11 throughout the PV/NC area



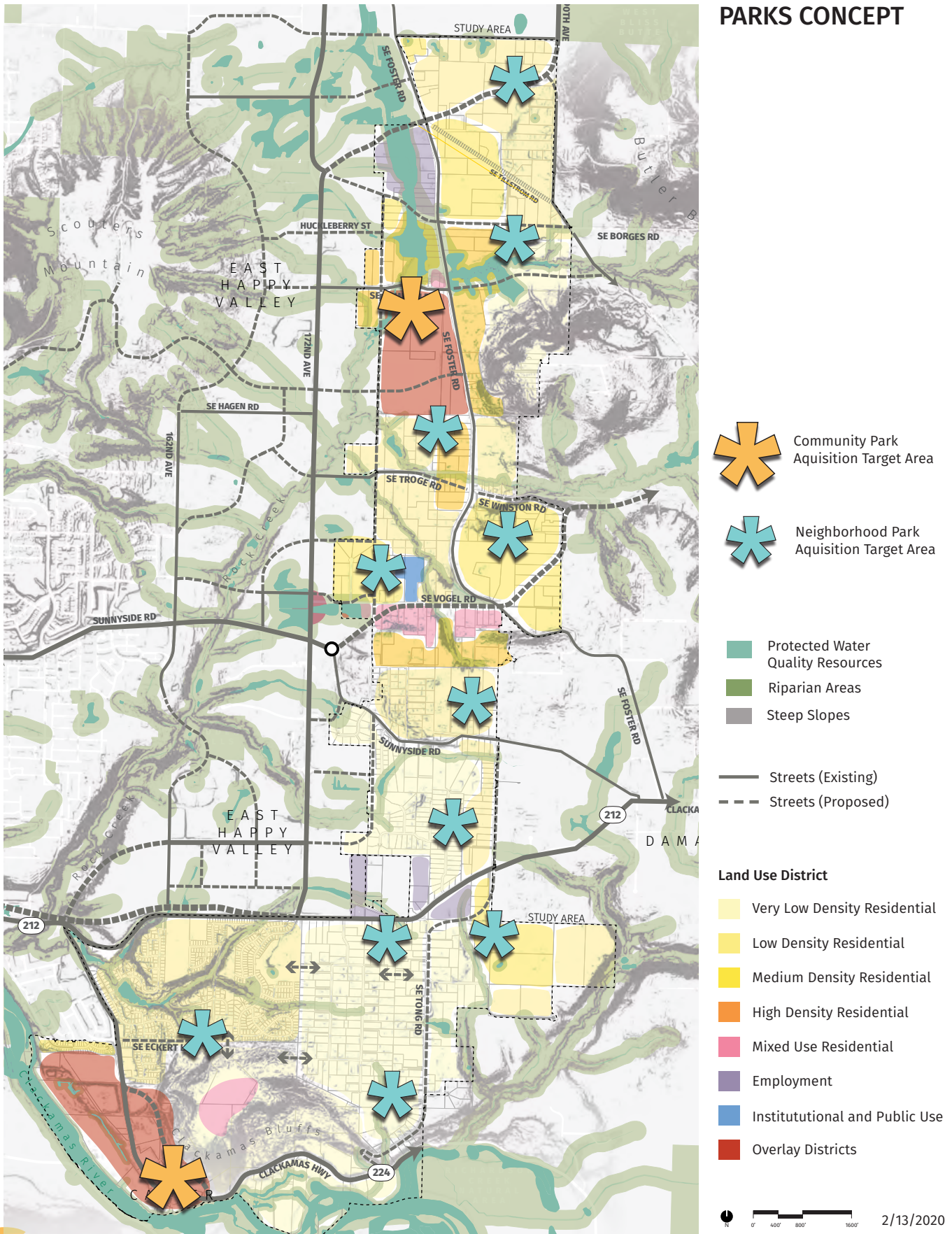
Community Park Examples

20-30 acres in size.

1-3 to serve the plan area



Figure 23. Trail and Bikeway System



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COMPREHENSIVE PLAN



Land uses in the Pleasant Valley/North Carver area will ultimately be determined by zoning designations applied to specific parcels. The recommended land use plan shown in Figure 12, which identifies the appropriate locations for various types of residential and employment land in the study area, is further refined by the proposed zoning map in Figure 24. The zones proposed in the Pleasant Valley/North Carver Area are as follows:

Residential Zones

- R-20: Residential – 20,000 sq. ft. per dwelling
- R-15, R-10, R-8.5, R-7, R-5: Residential – (Example: R-7 is 7,000 sq. ft. per dwelling)
- MUR-S: Mixed Use Residential – Single-Family (minimum 6 du/acre)
- SFA: Single-Family Attached Residential – (10-15 du/acre)
- MUR-A: Mixed Use Residential – Attached (10-15 du/acre)
- MUR-M1: Mixed Use Residential (15-24 du/acre)
- MUR-M2: Mixed Use Residential (25-34 du/acre)
- MUR-X: Mixed Use Residential Mixed Buildings (24 du/acre average in Carver Riverfront District)

Employment Zones

- MCC: Mixed Commercial Center
- EC: Employment Center
- IC: Industrial Campus
- MUC: Mixed Use Commercial Center
- MUE: Mixed Use Employment
- IPU: Institutional and Public Use District
- CCC: Community Commercial Center

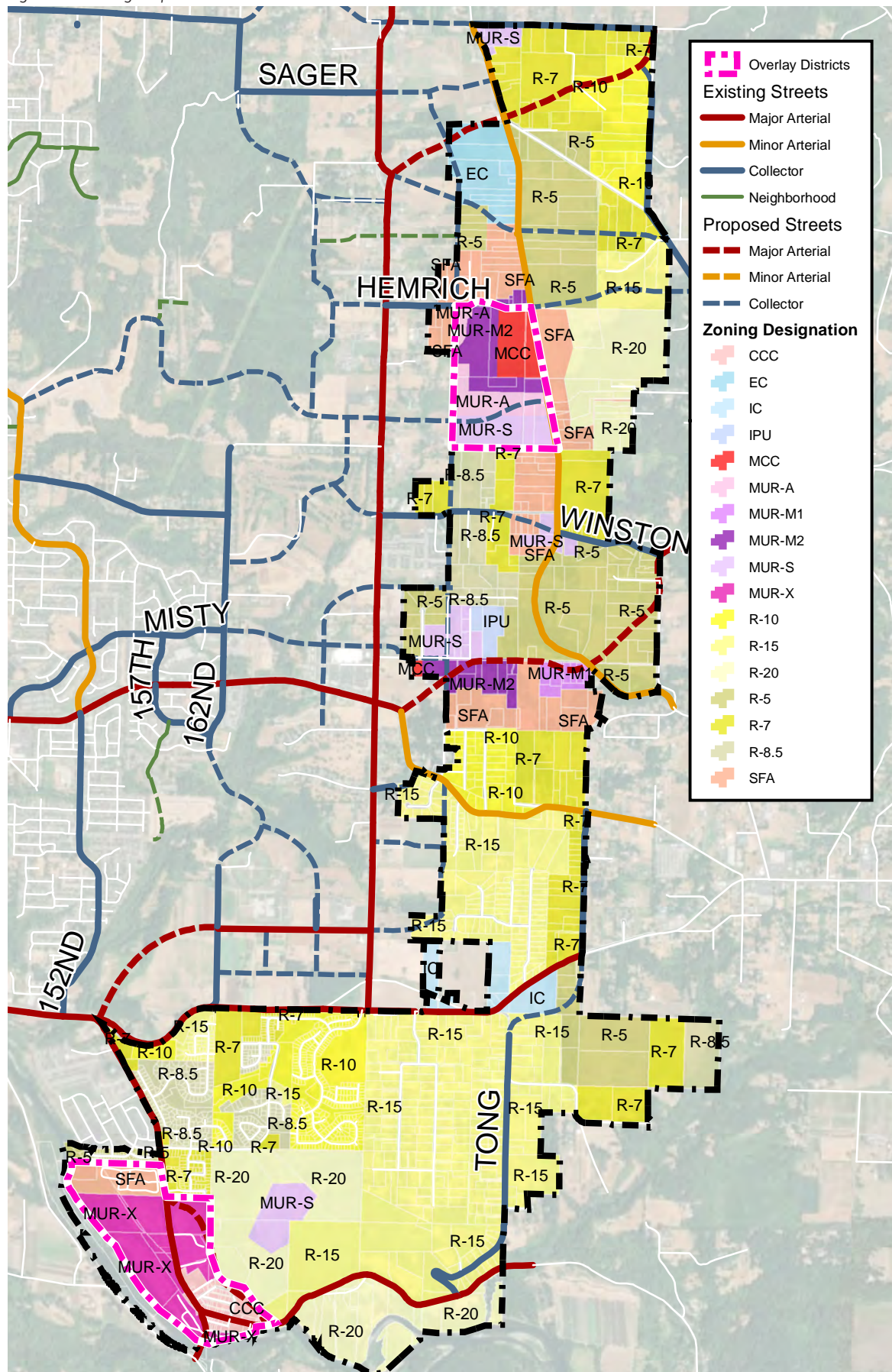
In addition to the zones listed above, two new overlay zones are proposed:

1. **Pleasant Valley Downtown Overlay District.** This overlay will apply to the land in the southwest quadrant of the intersection of SE Foster Road and SE Hemrich Road.¹

2. **Carver Riverfront Overlay District.** This overlay will apply to land within the unincorporated community of Carver, as shown on Figure 24. The policy intent of this overlay district is described in Policy LU-7.4 on page 48 of this report.

Codifying these policies and adopting new overlay zones is expected to occur subsequent to adoption of this Comprehensive Plan and prior to development of properties within these areas into the City of Happy Valley.

Figure 24. Zoning Map



LU-7.1: Overall Policy Framework and Vision for Pleasant Valley/North Carver

The following policies were derived from the vision, guiding principles and plan recommendations developed during the Pleasant Valley/North Carver Comprehensive Plan process (2018-2020). Each policy is made up of its introductory goal-oriented statement, followed by the principles to be used during implementation.

LU-7.2: Pleasant Valley/North Carver Vision and Guiding Policies

The vision for Pleasant Valley/North Carver Comprehensive Plan is that the area will be an integral part of the growing Happy Valley community, and a natural extension of East Happy Valley. The area will be comprised of a network of walkable neighborhoods, vibrant mixed-use centers, and thriving employment areas. The natural beauty of the landscape is embraced, the ecological health of the area is preserved and enhanced through environmental stewardship, and nature is made part of every neighborhood. The Carver riverfront will be transformed to include great public access and unique destinations. The area will be supported by a resilient and safe network of streets, transit service, infrastructure, high-quality schools, and attractive parks and trails. Development and future planning will:

- **Promote a Sense of Community** - Development is planned and designed to create a strong identity and sense of community in Pleasant Valley and North Carver.
- **Preserve and Celebrate Nature** - Nature is protected, celebrated, and integrated into the community. Stream and habitat corridors are

preserved and enhanced to ensure they can provide critical ecological functions. People can experience nature up-close through a network of parks and trails. People can appreciate nature from afar, in everyday situations, though views of rolling hills and forested buttes.

- **Form Walkable, Welcoming Neighborhoods** - Neighborhoods are more than a collection of housing. Neighborhoods feel and function like villages: welcoming communities that make room for people of all ages, abilities, and life experiences. Across the PV/NC plan area, a wide variety of housing options are provided, such as single-family dwellings, attached single-family dwellings and townhomes, compact cottages, apartments and condominiums, and accessory dwelling units. Streets and blocks are designed for walking and local shops and services are within walking distance.
- **Create Vibrant, Mixed-Use Centers** - People gather in the Pleasant Valley Downtown District and Carver Riverfront District centers to shop, play, and celebrate as a community. Mixed-use buildings allow people to live in these centers, ensuring that streets are alive with activity both during the day and in the evenings. The centers are destinations because they are built around special places, such as the waterfront of the Clackamas River or the confluence of important streets.
- **Craft Distinctive Places** - People perceive the communities in the plan area as distinctive places. Homes and buildings are designed to be varied and interesting. Gateways into the area and individual neighborhoods are marked with distinctive public art or monuments. Unique features are designed into corridors and centers to reinforce a sense of place.

- **Attract Local Jobs and Businesses** - Residents have opportunities to live and work in the same community. Local jobs are available to people with a range of backgrounds and skills and pay a living wage. Businesses are attracted by unique advantages of locating in the area and reinforce the development of industry clusters.
- **Deliver a Resilient, Connected Transportation System** - A robust network of streets and transit routes allow people to move efficiently in, out, and across the area. Streets are designed to both manage traffic flow and encourage walking, biking, and riding transit. Transportation infrastructure is built prior to or concurrent with development.
- **Ensure a Regional Fit** - The area is integrated with the regional transportation system, land use patterns, and public facilities network. The plan area is viewed both as a distinct, individual place and a part of a larger system of neighboring cities and rural areas.
- **Plan for Fiscal Health** - The plan will be implemented because it addresses fiscal realities. Service providers—including transportation, sewer, water, stormwater, parks, schools, and parks—will build infrastructure to support development because funding mechanisms are aligned with needs and costs.

LU-7.3: Pleasant Valley Downtown District

The Pleasant Valley/North Carver Comprehensive Plan identified a new mixed-use center located southwest of Hemrich Road and Foster Road. The vision for this center is that it is the future home of Happy Valley's downtown, known as the Pleasant Valley Downtown District.

The Pleasant Valley Downtown District will include:

- A new Overlay Zone that guides the land uses, urban design, public spaces, local circulation, transition between uses and neighboring areas, community amenities, and other elements needed for a successful downtown.
- The requirements for a master plan for the downtown district properties.
- A mix of commercial, residential, employment and public uses.
- A mix of medium, high density and mixed-use housing, such as apartments, condominiums, townhomes, triplexes and duplexes, and cottage clusters. The master plan will include a well-designed configuration of different housing types and densities, to emphasize variety and avoid concentrations of any particular housing type in any one location.
- Public uses. When the City is locating a new public use (e.g. library or community center), or working with community partners to find a site for one, the City will consider the Pleasant Valley Downtown District. If possible, a public use shall serve as an "anchor" use for the Downtown.
- A Main Street. The Main Street will be a highly pedestrian-oriented and walkable street, through the heart of the downtown, implementing design guidelines described in the Overlay.
- Community gathering spaces such as plazas and parks.
- A network of walkable blocks, with on-street parking and buildings oriented to streets with ground floors well-designed for pedestrian activity.
- Safe, direct and convenient street and pedestrian connections to facilitate easy access to and from adjacent neighborhoods.



- Connections to the trail network.
- “Happy Valley Style” architectural design.

LU-7.4: Carver Riverfront District

The City’s vision for Carver is for the area to become a river-oriented, mixed-use district with a village-like scale and character that is both a desirable place to live and an attractive destination for Happy Valley residents and visitors.

The “Carver Riverfront District” will include:

- A new Carver Riverfront District Overlay Zone that guides the land uses, urban design, public spaces, local circulation, connections to the river, transition between uses and neighboring areas, community amenities, and other elements needed for a successful riverfront district.
- Base zoning of: Community Commercial Center zoning in the Carver Junction area; and, Mixed Use Buildings with Residential Emphasis (MUR-X) in the area north of Carver Junction. The uses and standards will be further refined through the new Carver Riverfront District Overlay Zone. Residential development in the MUR-X area is planned to have a maximum density of 24 units per acre, averaged across all residential projects and housing types.
- OR 224 realigned to the base of the bluff. (see Policy T-2.3)
- Small, walkable blocks in the central area of Carver Junction. Land uses in this area will be 1-3 story commercial, residential and mixed uses.
- A connected pattern of new, walkable blocks north of Carver Junction. Land uses in this area will be 2-4 story commercial, residential and mixed uses.
- A signature future riverfront park.
- Mixed-use along the riverfront area that is designed to complement and integrate with public access, trails and the future riverfront park.
- Connections to the trail network.
- Riverfront access, trails and destinations that provide visual and physical public access to the Clackamas River.
- Preservation and enhancement of natural and historic features.
- Planned connections and land use transitions to the residential areas to the north and the bluff.
- “Happy Valley Style” architectural design, with elements that reflect the unique history, village character and riverside setting of Carver.

LU-7.5: Coordination with East Happy Valley Policies

Part of the City’s vision for Pleasant Valley/North Carver is that it is natural extension of East Happy Valley. Toward that end, the following policies, originally adopted for the East Happy Valley Comprehensive Plan, are adopted by reference and apply within the Pleasant Valley/North Carver area:

- LU-4.3: Urban Design
- NE-4.1: Natural Environment
- ED-1.5: Economic Development
- H-2.1: Housing
- PF-2.1: Public Facilities
- T-2.1: Transportation (see also new policies for Pleasant Valley/North Carver)
- U-2.1: Urbanization Policies
- New Transportation Policies for Pleasant Valley/North Carver

T-2.2: Foster Parkway

Foster Road, from approximately the 172nd-190th Connector to Vogel Road, will be designed and developed as a “Parkway” street. Foster Parkway is intended to accommodate all modes of travel along a safe and attractive street adjacent to the Pleasant Valley Downtown District and neighborhoods along Foster Road. Per the classification and cross-section adopted in the Transportation System Plan, it will be a three-lane Minor Arterial facility with additional landscaping, a planted median where feasible, and a separated multi-use trail. The section adjacent to the Pleasant Valley Downtown District will have features that support the more active pedestrian-oriented character of the area, as defined by the Pleasant Valley Downtown District Overlay. For example, sidewalks may include trees in tree wells, pedestrian-scale lighting and other pedestrian amenities.

T-2.3: OR 224 Refinement Plan and Realignment in Carver

The City will work with ODOT and others to prepare a refinement plan for OR 224 through Carver. The City’s vision for the Carver Riverfront District includes a realignment of the highway to the east along the base of the bluff to: (1) create the Carver Riverfront District (see Policy 7.4); and (2) reduce congestion and improve safety at the intersection of OR 224 and Market Road; and, (3) preserve a walkable village core in the heart of the Carver Junction.

ED-1.6: Pleasant Valley/North Carver Employment

Pleasant Valley/North Carver Comprehensive Plan areas will include a diverse range of employment opportunities. Employment lands will provide:

- Reasonable amounts of industrial and employment areas to address the employment needs of those living in the area, as well as contribute to sub-regional needs.
- Employment areas that are served by adequate public facilities and accessible by a full range of transportation modes (i.e., automobile, freight/truck, transit, shared ride, pedestrian and bicycle).
- A new master planned Pleasant Valley “Downtown District” mixed use center near the Hemrich/Foster intersection) with mixed-use zoning that allows for commercial, civic, workforce housing and related uses.
- Community Commercial Center zoning in the Carver Junction area to support a future “Carver Riverfront District” with a mix of uses that allow for a wide range of commercial uses and medium-to-high density housing.
- Employment uses that are integrated with the natural resource qualities of the land, including bluffs, streams/river, agriculture and viewpoints.



Transportation System Plan

As part of the Pleasant Valley/North Carver Comprehensive Plan, amendments were prepared for the City of Happy Valley's Transportation System Plan (TSP). This TSP update incorporates the key elements of the Pleasant Valley/North Carver transportation system, including:

- A new "parkway minor arterial" cross-section to implement the Foster Road Parkway.
- Updated TSP maps that implement the Pleasant Valley/North Carver area Street Network and Bikeways and Trails Network.
- New transportation projects either within the study area or needed to serve the growth in the study area, such as improvements to Highway 212/224 (Project I20) and Highway 224/Springwater Road (Project I21).
- A proposed study area corridor to evaluate the realignment of Highway 224 through Carver.

Parks & Recreation Master Plan

As part of the Pleasant Valley/North Carver Comprehensive Plan, amendments were prepared for the City of Happy Valley's Parks, Recreation, and Open Space plan. Updates include:

- Discussion of the PV/NC area in demographics, population forecasting, and Level of Service calculations
- Discussion of community events conducted as part of the PV/NC Comprehensive Plan
- Objectives related to trails & parks connections within the study area.
- Mapping park acquisition target areas in the PV/NC area.
- PV/NC projects added to the Parks Capital Improvement Plan (CIP).



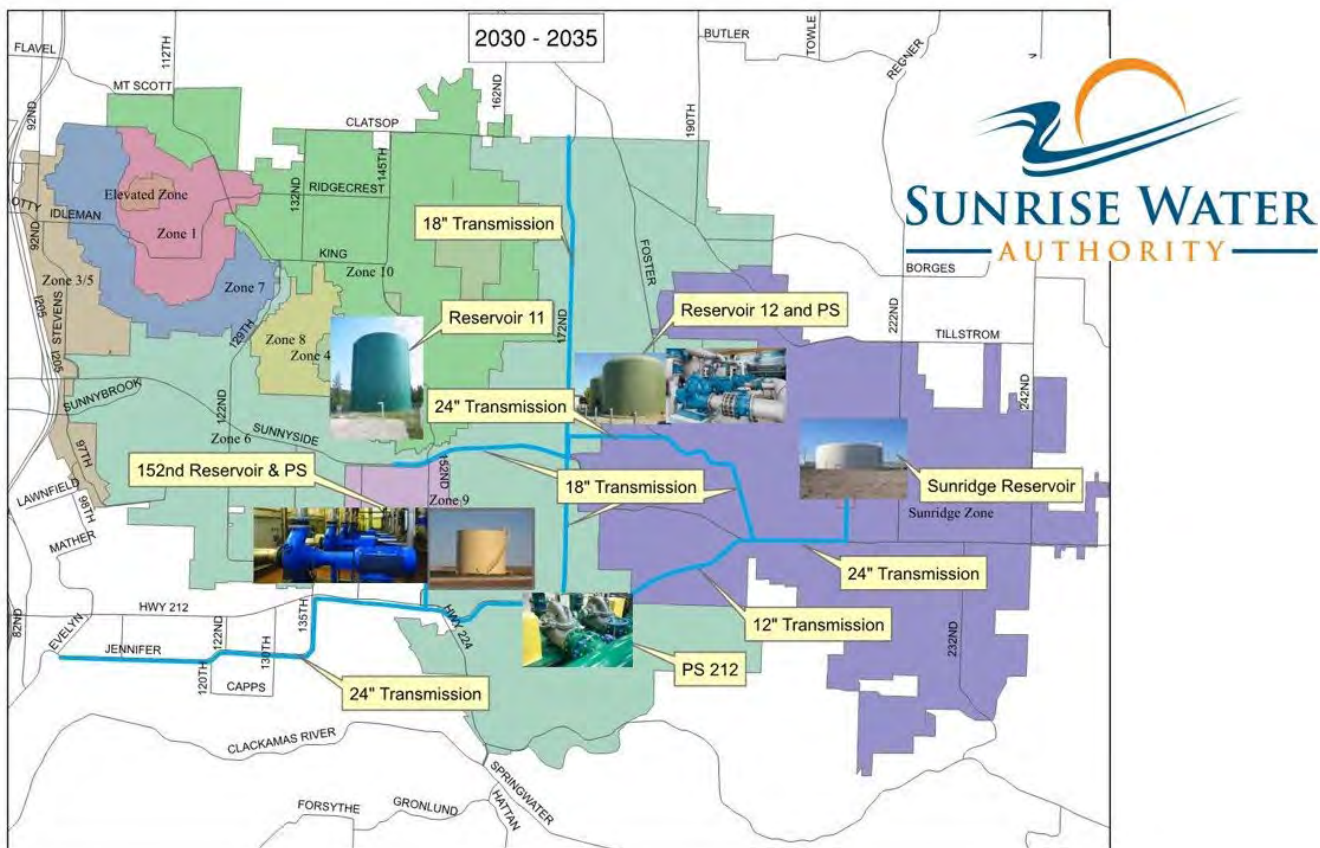
Water Master Plan

Water service for the Pleasant Valley/North Carver area is provided by the Sunrise Water Authority (SWA), whose system provides both urban-level service and rural-level service to the Happy Valley and Damascus areas, respectively.

SWA recently completed a long-range plan identifying improvements needed to serve anticipated growth in its service area through 2035, including new reservoirs, transmission lines, and pump stations. These improvements are expected to be paid by Systems Development Charges (SDCs) as development occurs.

Of particular note for the Pleasant Valley/North Carver area, SWA's gravity-fed system currently serves areas at a ground level elevation of 470 feet or lower, due to the location of existing storage tanks. This means that development above this elevation, which includes portions of the study area in the vicinity of Sunnyside, Highway 212, and the Carver Bluffs, will need to either be phased concurrent with future SWA improvements or help fund water infrastructure themselves.

Figure 25. Sunrise Water Authority Infrastructure Planning



Sanitary Sewer & Stormwater Master Plans

Sewer service for the PV/NC area is provided by Clackamas County Water Environment Services (WES). Sewage is treated at either the Milwaukie facility, which is capped at current levels, or the Tri-City facility, which is expanding to accommodate future growth. Significant new projects to accommodate this growth include the Rock Creek interceptor in the PV/NC area, and the Clackamas Interceptor.

Stormwater within the PV/NC area is also managed by Water Environmental Services (WES). The typical process for stormwater management involves:

- **Standards.** WES sets stormwater design standards for development.
- **Construction.** Development builds stormwater conveyances and site-scale facilities to serve the development.

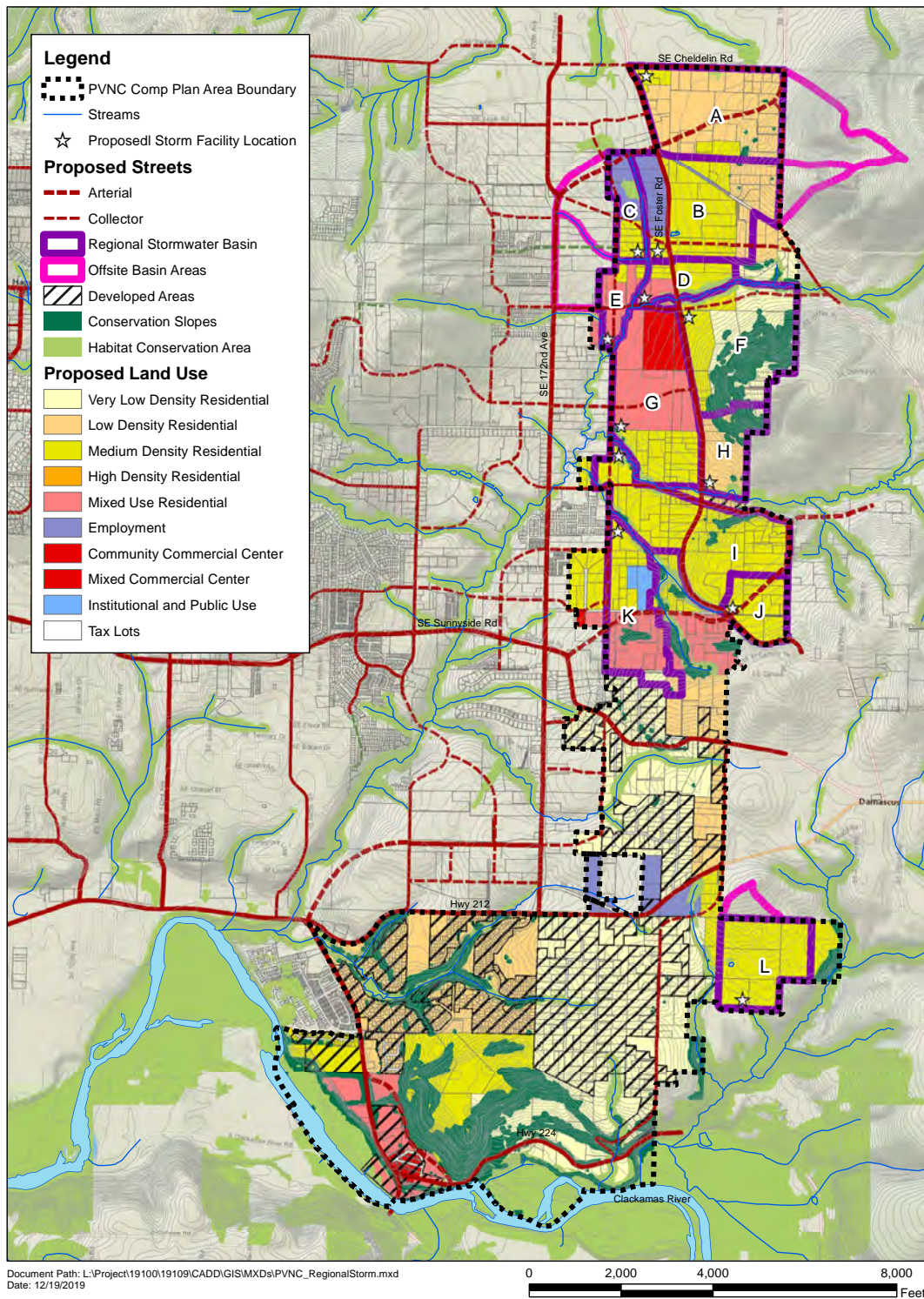
- **Long-Term Responsibility.** WES maintains public storm sewer (public streets & easements). WES maintains public stormwater facilities. Private storm sewer and stormwater facilities are maintained by property owners.

Parallel with the PV/NC Comprehensive Plan, WES prepared a Stormwater Master Plan for the area. The Master Plan recommends regional stormwater facilities where feasible. Regional stormwater facilities serve more than one property, have a lower life-cycle cost, and require less land overall. Using these types of facilities can remove a barrier to development of individual sites that would otherwise have to treat their own stormwater and provide opportunity for an open-space neighborhood amenity. Locations for regional stormwater facilities are shown on Figure 27. The City supports the co-location of stormwater facilities, parks, trails, and open spaces.

Figure 26. Example of Regional Stormwater Facility



Figure 27. Map of Recommended Regional Stormwater Locations (DRAFT)



Basin	A	B	C	D	E	F	G	H	I	J	K	L
Pond Area (ac)	1.0	1.8	0.6	0.4	0.3	1.0	2.1	0.4	1.5	0.4	1.0	1.1



ACKNOWLEDGMENTS

Happy Valley City Council

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 Brett Sherman, Council President
 Markley Drake, Councilor
 David Golobay, Councilor
 David Emami, Councilor

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**Pleasant Valley/
North Carver**
COMPREHENSIVE PLAN

