



**PLANNING COMMISSION MEETING  
TUESDAY, JUNE 23, 2026 — 6:30 PM  
501 DELTA AVENUE  
MARYSVILLE, WA 98270**

**AGENDA**

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The Planning Commission meeting is a hybrid meeting which you are welcome to attend in person or via Teams. Anyone wishing to provide verbal public comment is encouraged to pre-register by contacting the Staff Contact for the agenda item outlined above the day prior to the meeting. Those providing verbal public comment will need to provide their name, address, e-mail and phone number for the public record.

To listen to the meeting without providing public comment:

Join: <https://teams.microsoft.com/meet/258075646844112?p=gQgycc6WgFuZUYf5dk>

Meeting ID: 258 075 646 844 112

Passcode: qW282A5B

**Call to Order**

**Roll Call**

**Approval Of Minutes**

1. Draft 5/12/2026 Minutes

**Audience Participation (for topics not on the agenda)**

**Public Hearing**

**New Business**

Critical Areas Ordinance Update

**Recommended Motion:**

Middle Housing Parking Study

**Recommended Motion:**

**Director's Comments**

**Adjournment**

**Next Meeting**

**Special Accommodations: The City of Marysville strives to provide accessible**

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**PLANNING COMMISSION MEETING  
TUESDAY, MAY 12, 2026 — 6:30 PM  
501 DELTA AVENUE  
MARYSVILLE, WA 98270**

**MINUTES**

**Call to Order**

Chair Leifer called the meeting to order at 6:30 p.m., noting the absence of Commissioner Terri Jones.

**Roll Call**

Present:

Commission: Chair Stephen Leifer, Vice Chair Brandon Whitaker, Commissioner Jerry Andes, Commissioner Shanon Jordan, and Commissioner Raymond Miller

Staff: Interim CD Director Angela Gemmer, Senior Planner Emily Morgan

Absent: Terri Jones

**Approval Of Minutes**

October 14, 2025: Commissioner Brandon Whitaker moved to approve the meeting minutes. Commissioner Shannon Jordan moved to 2nd.

January 27, 2026: Commissioner Shannon Jordan moved to approve the meeting minutes. Commissioner Jerry Andes moved to 2nd.

April 28, 2026: Commissioner Shannon Jordan moved to approve the meeting minutes. Commissioner John Ray moved to 2nd.

Concern was expressed by the Commission regarding the new minute-taking style of conciseness and the inability to quickly understand what was discussed.

1. 10/14/2025 Draft PC Minutes
2. 1/27/2026 Draft PC Minutes
3. 4/28/2026 Draft PC Minutes

## **Audience Participation (for topics not on the agenda)**

### **Public Hearing**

Proposed Code Amendment for MMC 22G.110, Boundary Line Adjustments

Emily Morgan, Senior Planner, commented on the letter of support from the Master Builders Association (MBA).

Chair Leifer opened the public hearing. Commissioner Jerry Andes closed the public hearing. Commissioner John Ray 2nd.

Commissioner Brandon Whitaker moved the Planning Commission to recommend approval of the code amendment to the City Council for adoption by ordinance. Commissioner John Ray 2nd. 5 Yes.

### **New Business**

116th Street Master Plan Repeal

Angela Gemmer, Interim CD Director, introduced the repeal of the 116th Street Master Plan.

Commissioners asked questions.

### **Director's Comments**

None.

### **Adjournment**

The meeting ended at 7:39. Commissioner Shannon Jordan made a motion. Commissioner John Ray 2nd.

### **Next Meeting**

June 9, 2026



## Agenda Bill

AGENDA ITEM NO. 1.

**DATE:** June 23, 2026

**SUBMITTED BY:** Angela Gemmer, Planning Manager

**PRESENTED BY:** Angela Gemmer, Planning Manager

**ITEM TYPE:** Discussion Item

**AGENDA SECTION:** New Business

**SUBJECT:**  
Critical Areas Ordinance Update

**SUGGESTED ACTION:**  
Recommended Motion:

### **SUMMARY:**

**The Washington State Growth Management Act (GMA) requires that all cities and counties designate and protect critical areas – including wetlands, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, and critical aquifer recharge areas using Best Available Science (BAS). The City's critical areas regulations are required to be updated every 10 years. Staff is nearing completion of a draft of the Critical Areas Ordinance update, which is proposed to be presented to the Planning Commission on July 14th. For the June 23rd Planning Commission work session, staff will provide an overview of key requirements that need to be addressed, along with a summary of what other local jurisdictions have done to update their critical area regulations.**

**ATTACHMENTS:**

None



## Agenda Bill

AGENDA ITEM NO. 2.

**DATE:** June 23, 2026

**SUBMITTED BY:** Angela Gemmer, Planning Manager

**PRESENTED BY:**

**ITEM TYPE:** Discussion Item

**AGENDA SECTION:** New Business

**SUBJECT:**  
Middle Housing Parking Study

**SUGGESTED ACTION:**  
**Recommended Motion:**

**SUMMARY:**

House Bill 1110, the Middle Housing statute, requires cities to allow middle housing (i.e., duplexes, triplexes, fourplexes, townhouses, etc.) in all residential zones. Currently, two dwelling units are required to be allowed on all lots, and up to four dwelling units when one dedicated affordable housing unit is provided. HB 1110 reduces the required parking for Middle Housing to only one parking space per dwelling unit on lots that are under 6,000 square feet and two parking spaces per dwelling units on lots that are over 6,000 square feet. This level of parking is less than what Marysville has historically required for duplexes and townhouses, which is three parking spaces per dwelling unit. The City is concerned that the lower levels of parking will create safety issues as the demand for parking in residential neighborhoods exceeds what HB 1110 is requiring. Consequently, the City had a parking study prepared to present these safety concerns and request that the City be allowed to continue to require three parking spaces per dwelling unit. The parking study was submitted to the Department of Commerce for review and approval in early June. Commerce is expected to respond to the City's request by September 2026. A brief overview of the parking study will be presented at the June 23rd Planning Commission meeting and is attached for reference.

**ATTACHMENTS:**

Marysville Middle Housing Empirical Parking Study

City of Marysville

# MIDDLE HOUSING EMPIRICAL PARKING STUDY

Prepared for:  
City of Marysville

June 2026

Prepared by:



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# Introduction and Step 1: Applicability Determination

In 2023, the Washington state legislature passed House Bill (HB) 1110 (codified as RCW 36.70A.635 through RCW 36.70A.638, and amended by subsequent legislation including HB 2321 in 2024) and HB 1337 (RCW 36.70A.681), mandating that certain jurisdictions adopt development regulations to allow and facilitate the development of middle housing types – such as duplexes, triplexes, quadplexes, townhouses, and courtyard apartments – and accessory dwelling units (ADUs). These laws aim to increase housing supply, promote affordability, and support diverse housing options throughout the state.

The City of Marysville – with a 2020 population of 70,714 and a 2025 population of 75,640 per the Washington State Office of Financial Management – is currently a Tier 2 City under RCW 36.70A.635(1)(a). Therefore, the City is subject to the parking requirements set forth in RCW 36.70A.635(6)(d)-(f). The City of Marysville adopted interim middle housing and ADU regulations in June 2025, with final regulations adopted in November 2025 via Ordinances 3366 and 3367, respectively.

A key provision of these bills establishes maximum off-street parking requirements that cities and counties may adopt for middle housing and ADUs. However, the state has provided possible exemption opportunities to these maximum parking requirements if a certified empirical parking study demonstrates that these maximum parking requirements would result in significantly reduced safety for people driving, walking, or biking and for emergency vehicle access compared to a jurisdiction’s proposed or existing higher requirements. This report describes the empirical parking study conducted for the City of Marysville to request exemption from the state’s maximum parking requirements for middle housing within certain identified areas. The City of Marysville is only seeking an exemption from the middle housing parking requirements, and not an exemption from the ADU requirements.

## Middle Housing Off-Street Parking Requirements

The state legislation sets specific maximum off-street parking requirements for middle housing based on lot size and proximity to major transit stops. Under RCW 36.70A.635(6)(d)-(f), jurisdictions generally may not require more than:

- 1 off-street parking space per middle housing unit on lots of 6,000 square feet or less
- 2 off-street parking spaces per middle housing unit on lots larger than 6,000 square feet
- 0 off-street parking spaces per middle housing unit within one-half mile of a major transit stop<sup>1</sup>

These maximum requirements are intended to enhance housing affordability and feasibility by minimizing construction costs and land dedicated to parking. Off-street parking increases development costs through excavation, paving, drainage, and structural requirements, while reducing buildable area for housing units. Residential parking demand varies widely based on factors such as transit proximity, mixed-use development patterns, household size and composition, income levels, and the quality of surrounding walking, biking, and transit networks. In areas with mixed-use, higher density development, residents typically own fewer

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<sup>1</sup> While Community Transit’s Swift Gold Line bus rapid transit service is anticipated to be deployed in Marysville in 2031, currently the City does not have any major transit stops.

vehicles and rely less on personal vehicles for daily travel needs. In areas with more separation of uses and lower density development, residents typically own more vehicles and rely more on personal vehicles for travel.

## Empirical Parking Study

The legislation provides an exemption mechanism allowing jurisdictions to request certification from the Washington State Department of Commerce (Commerce) for higher parking requirements for middle housing. Requesting certification requires submission of an empirical parking study prepared by a credentialed transportation or land use planning expert. The study must demonstrate that applying the maximum parking requirements for middle housing in a specified area would be significantly less safe than applying the jurisdiction's own requirements for the equivalent development of detached single-family residences in the same location. Potential safety concerns may include increased parking spillover on narrow streets constraining vehicle access including emergency vehicle access, reduced visibility at driveways and intersections, hazards to people walking and biking from parked vehicles on roadways with unimproved frontages, or increased risks for people crossing wide roadways.

Commerce's *Middle Housing & Accessory Dwelling Unit (ADU) Parking Study Guidance* (March 2025) outlines a structured five-step framework for preparing these parking studies, including (1) determining applicability, (2) assessing land use and transportation context, (3) conducting parking demand and utilization analyses, (4) performing safety evaluations, and (5) documenting findings. This report is structured to align with Commerce's guidance.

## Study Purpose

This empirical parking study supports the City of Marysville's request for Commerce certification of an exemption from the maximum off-street parking requirements for middle housing under RCW 36.70A.635(6)(d)-(f). The City is not seeking an exemption from the parking requirements applicable to ADUs under RCW 36.70A.681 or the related ADU provisions of the Commerce guidance.

For middle housing, the City proposes to apply its existing single-family residence parking standard of 3 off-street parking spaces per residence to middle housing developments within the defined Certification Area described in this report. This requirement of 3 off-street parking spaces per residence was historically applied to middle housing developments in the City prior to the State's middle housing legislation.

The analysis described in this report demonstrates that the state's maximum parking requirements for middle housing – 2 spaces per middle housing unit for most lots in Marysville – would lead to significant safety issues due to anticipated parking spillover in areas characterized by:

- High vehicle ownership rates exceeding 2 vehicles per household
- Limited on-street parking capacity on narrow roads due to emergency vehicle access requirements
- Lack of improved frontage (i.e., no curbs, gutters, or sidewalks) in many neighborhoods where parked vehicles could create significant safety impacts to people walking and biking
- Wide roads that increase crossing distances and exposure for people walking and biking

- Planned Residential Developments (PRDs) with frequent driveways that prevent on-street parking opportunities

The City of Marysville, as an outer suburb in the northern Puget Sound region, exhibits high automobile dependency, with most residential areas developed as low-density, auto-oriented neighborhoods typical of midcentury suburban development patterns. Many residential streets lack sidewalks, curbs, or street trees. Commercial, office, and activity centers are often separated from residential neighborhoods by distances requiring vehicular travel. Transit service is limited primarily to infrequent Community Transit routes along major arterials, with no direct high-capacity transit access in most neighborhoods. Community Transit is planning to provide Swift Gold Line bus rapid transit service to Marysville; however, this service is not anticipated to begin until 2031, beyond the current five-year certification window analyzed in this study. These development patterns provide fewer walkable, mixed-use areas and require greater reliance on personal vehicles for travel, justifying the higher parking requirements requested.

## Certification Area

The Certification Area, as shown in **Figure 2**, encompasses a portion of Marysville's low-density residential zones, covering 2,951 acres. This area focuses on midcentury and later suburban neighborhoods developed without comprehensive pedestrian facilities or adequate on-street parking accommodation. The Certification Area includes residential neighborhoods with the following characteristics:

- Local roadways without improved frontage, particularly roadways without sidewalks which limit safe movement for people walking along the roadway or accessing on-street parked vehicles
- Narrow local roadways (less than 24 feet pavement width) that cannot accommodate both on-street parking and adequate emergency vehicle access
- Wide local roadways (more than 36 feet pavement width) as these roadways create longer crossing distances, encourage higher vehicle speeds, and increase exposure risks to people walking and biking
- Planned Residential Developments (PRDs) where the high driveway frequency in these developments fragments the street edge, significantly limiting opportunities to provide on-street parking

The Certification Area excludes downtown Marysville and newer residential neighborhoods with adequate pedestrian facilities and on-street parking availability.

## Study Methodology and Data Sources

This study follows Commerce's five-step guidance framework:

- **Step 1: Determine Applicability** – Define terms, delineate the Certification Area, and justify the exemption request
- **Step 2: Assess Land Use and Transportation** – Describe land use and transportation characteristics, anticipated development patterns, and existing and future transportation facilities

- **Step 3: Conduct Parking Study** – Evaluate anticipated parking demand, parking spillover potential, and on-street parking utilization
- **Step 4: Perform Safety Analysis** – Evaluate street character, safety for people walking and biking, on-street parking utilization, and driveway constraints
- **Step 5: Document Findings** – Present empirical evidence and request certification

Primary data sources for this study include:

- U.S. Census Bureau American Community Survey (ACS) 5-year estimates (2020-2024) for household vehicle ownership, size, and demographics
- *City of Marysville 2024 Transportation Element* (November 2024)
- Zoning and development potential information provided by the City of Marysville
- Aerial imagery and on-street parking demand observations (two weekday evening collections in August 2025)
- Community Transit route maps for transit coverage analysis

The study was prepared by Stefanie Herzstein, PE, PTOE, and Drew Heckathorn from the Transpo Group. Stefanie is a principal with 24 years of experience specializing in multimodal transportation planning, parking, and roadway design. Stefanie earned a B.S. in Civil Engineering from the University of New Hampshire and a M.S. in Civil Engineering/Transportation from the University of California, Berkeley. Drew is a project manager with nine years of experience specializing in parking demand studies, traffic operations analysis, and long-range planning. Drew earned a B.A. in Business/Accounting from the University of Washington and a M.S. in Transportation Technology & Policy from the University of California, Davis.

This report is submitted to the Washington State Department of Commerce for review and certification.

## Step 2: Land Use and Transportation Assessment

This chapter provides an evaluation of the Certification Area's land use context, transportation system, and multimodal facilities consistent with Step 2 of the Commerce guidance. The assessment incorporates information from the City of Marysville's *2024 Transportation Element*. The Transportation Element inventories the City's street network, traffic volumes and operations, safety, and pedestrian, bicycle, and transit facilities. As mentioned, the Certification Area – comprising primarily low-density residential zones – is characterized by incomplete pedestrian and bicycle networks, limited transit coverage outside major arterials, and a reliance on personal vehicles for most daily travel needs. This auto-oriented infrastructure and land use context results in higher vehicle ownership rates and underscores the need for tailored off-street parking requirements to prevent parking spillover that could significantly reduce safety for people driving, walking, and biking in these neighborhoods.

### Certification Area Description

Middle housing is allowed in all of the City of Marysville's single-family and multi-family residential zones, which comprise 8,897 acres and are depicted on **Figure 1**. The Certification Area for this exemption request is shown on **Figure 2**, comprising 2,951 acres of the overall residential zones. The Certification Area is primarily comprised of suburban development falling into two major categories: older subdivisions and Planned Residential Developments (PRDs) constructed over the past two decades. The PRD portions of the Certification Area are shown on **Figure 3**. These development types will be discussed more fully later in this report.

The following summarizes zones within the Certification Area drawn from Marysville Municipal Code (MMC) 22C.010.030. These zones are depicted on **Figure 1**.

- **Neighborhood Residential 4.5 (NR-4.5):** The NR-4.5 zone is a medium density single-family residential zone. It allows single-family residences, middle housing, and townhomes. The base density is 4.5 dwelling units or lots per acre. The major type of new development will be detached single-family residences, with middle housing and townhomes also permitted.
- **Neighborhood Residential 6.5 (NR-6.5):** The NR-6.5 zone is a high density single-family residential zone. It allows single-family residences, middle housing, and townhomes. The base density is 6.5 units or lots per acre. The major type of new development will be detached single-family residences, with middle housing and townhomes also permitted.
- **Multi-Family, Low (R-12):** The R-12 zone is a low density multi-family residential zone. The major types of new housing development will be detached single-family residences, middle housing, townhouses, apartments, and condominiums. The density is 12 units per acre; the maximum is limited to 18 units per acre.
- **Multi-Family, Medium (R-18):** The R-18 zone is a medium density multi-family residential zone. The major types of new housing development will be detached single-family residences, middle housing, townhouses, apartments, and condominiums. The density is 18 units per acre; the maximum is limited to 27 units per acre.

- **Whiskey Ridge, Multi-Family Medium (WR-R-6-18):** The WR-R-6-18 zone is a medium density multi-family residential zone. The major types of new housing development will be attached and detached single-family residential, middle housing, apartments, and condominiums. The density is six units per acre for detached single-family and 10 units per acre for attached multi-family; the maximum is limited to 18 units per acre.

Currently, no part of the Certification Area is proposed for a plan amendment, zone change, or text amendment that may affect parking in the proposed Certification Area; however, as mentioned, City parking regulations were adopted in November 2025 to comply with the state's middle housing and ADU parking legislation.

The Certification Area excludes the more mixed-use downtown core and some newer residential neighborhoods where higher densities and better multimodal connectivity make the statutory maximum parking requirements more feasible. Within the Certification Area, land uses are predominantly residential, interspersed with community facilities such as parks, schools, and places of worship. Minimal integration of commercial or employment opportunities exist, most of which are located in commercial centers along State Avenue or Smokey Point Boulevard or outside of the City entirely.

Street character in the Certification Area varies but is generally oriented towards vehicular access, with narrow local roadways (less than 24 feet wide) that cannot safely support on-street parking and remain compliant with International Fire Code (IFC) regulations<sup>2</sup>, wider local roadways (more than 36 feet wide<sup>3</sup>) that facilitate vehicular access but pose challenges for people crossing the roadway due to longer exposure distances, and roadways with unimproved frontages creating access challenges for people walking. PRDs, which comprise a portion of the development within the Certification Area, feature clustered housing and high driveway frequencies that fragment potential on-street parking opportunities. A detailed step-by-step procedure for how this Certification Area was identified utilizing GIS software is included as Appendix A of this report.

## Parking and Multimodal Transportation Facilities

The Certification Area's parking and transportation facilities are geared towards vehicular travel, with multimodal options limited by the suburban development patterns and separation of uses. The City's future transportation plans, as outlined in Chapter 4 of the Transportation Element, include targeted improvements to the roadway, pedestrian, bicycle, and transit networks. These improvements are primarily focused along arterial and collector roadways since the Transportation Element is required to develop a fiscally constrained 20-year plan prioritizing facilities most critical to the overall transportation system and the adopted land use plan. It is not feasible for the City to fund transportation improvements on every road; therefore, enhancements to local roads within low-density residential neighborhoods are often limited, as these streets serve fewer users compared to higher-volume arterials and collectors. As a result, the City's planned multimodal improvements do not significantly alter conditions along the Certification Area's local residential streets. Detailed maps from the *City of Marysville 2024 Transportation Element*, including maps for roadway functional classification, pedestrian facilities, bicycle facilities, transit routes, and recent collision history, are provided in Appendix B for context.

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<sup>2</sup> <https://sbcc.wa.gov/sites/default/files/2021-05/Section%20503.pdf>

<sup>3</sup> 36-foot rights-of-way are wide enough to accommodate two 10-foot travel lanes and two 8-foot parking lanes and thus adequate for local roadway width

Figure 1. Middle Housing Parking Study Impacted Zones

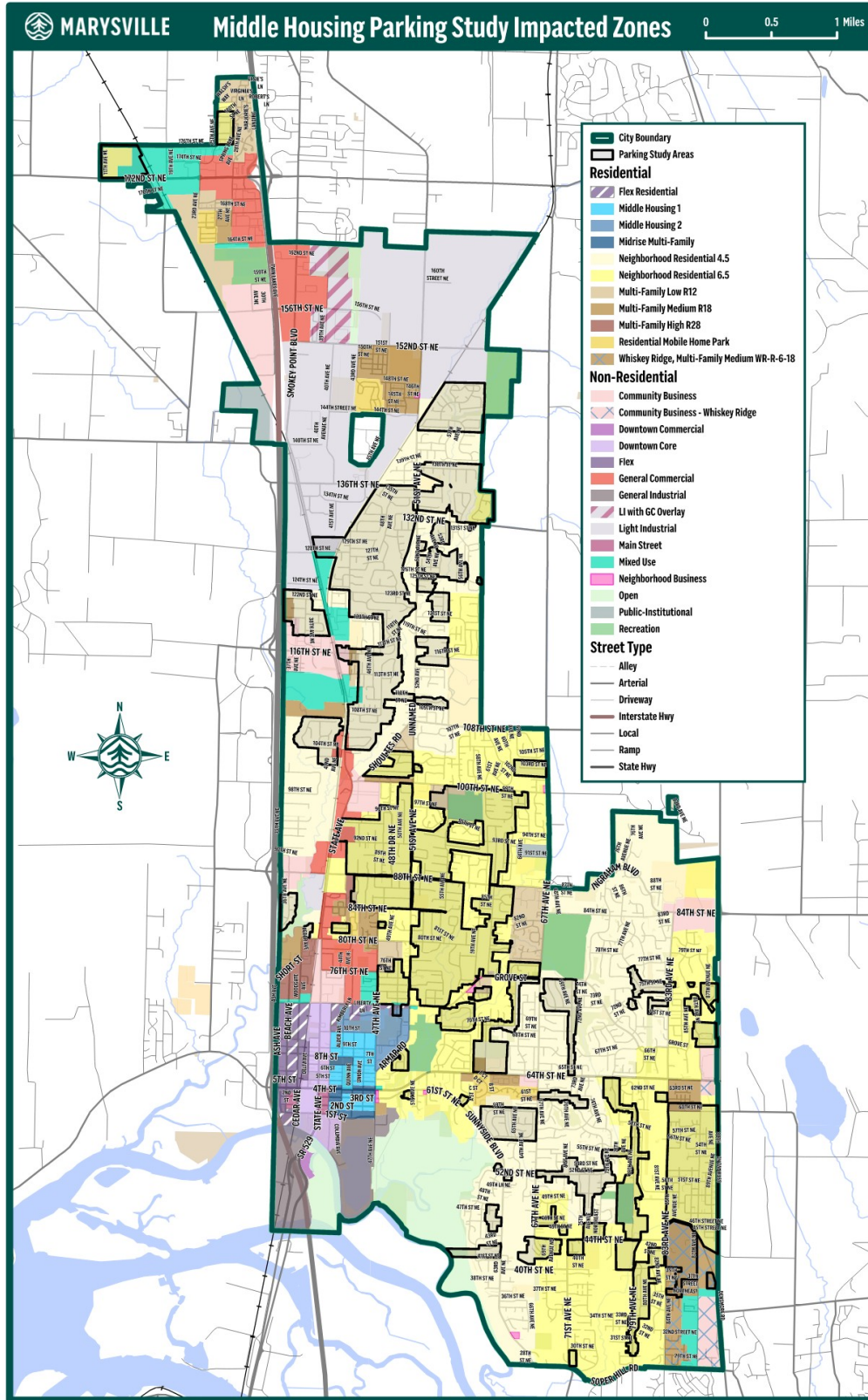


Figure 2. Middle Housing Parking Study Certification Area

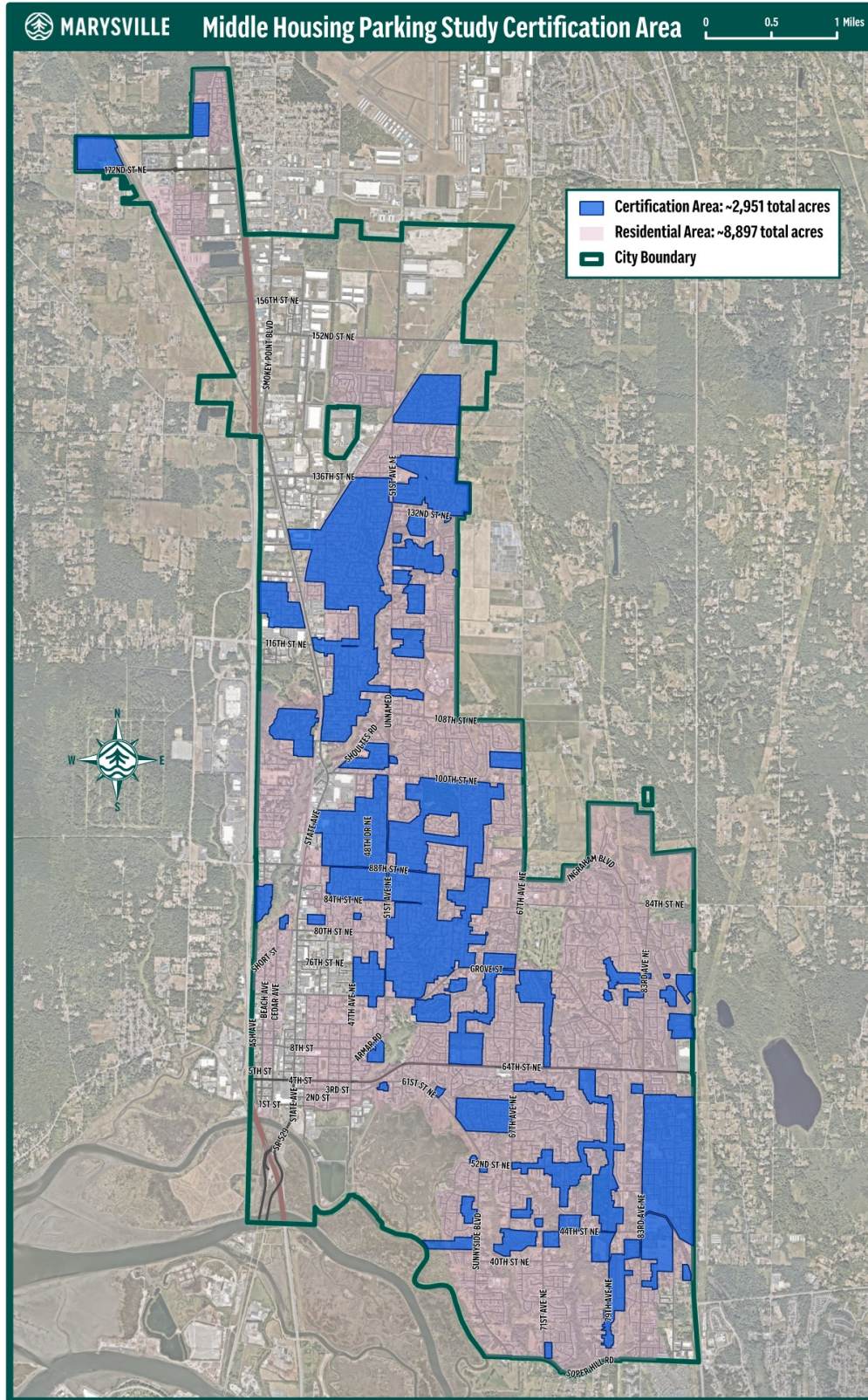
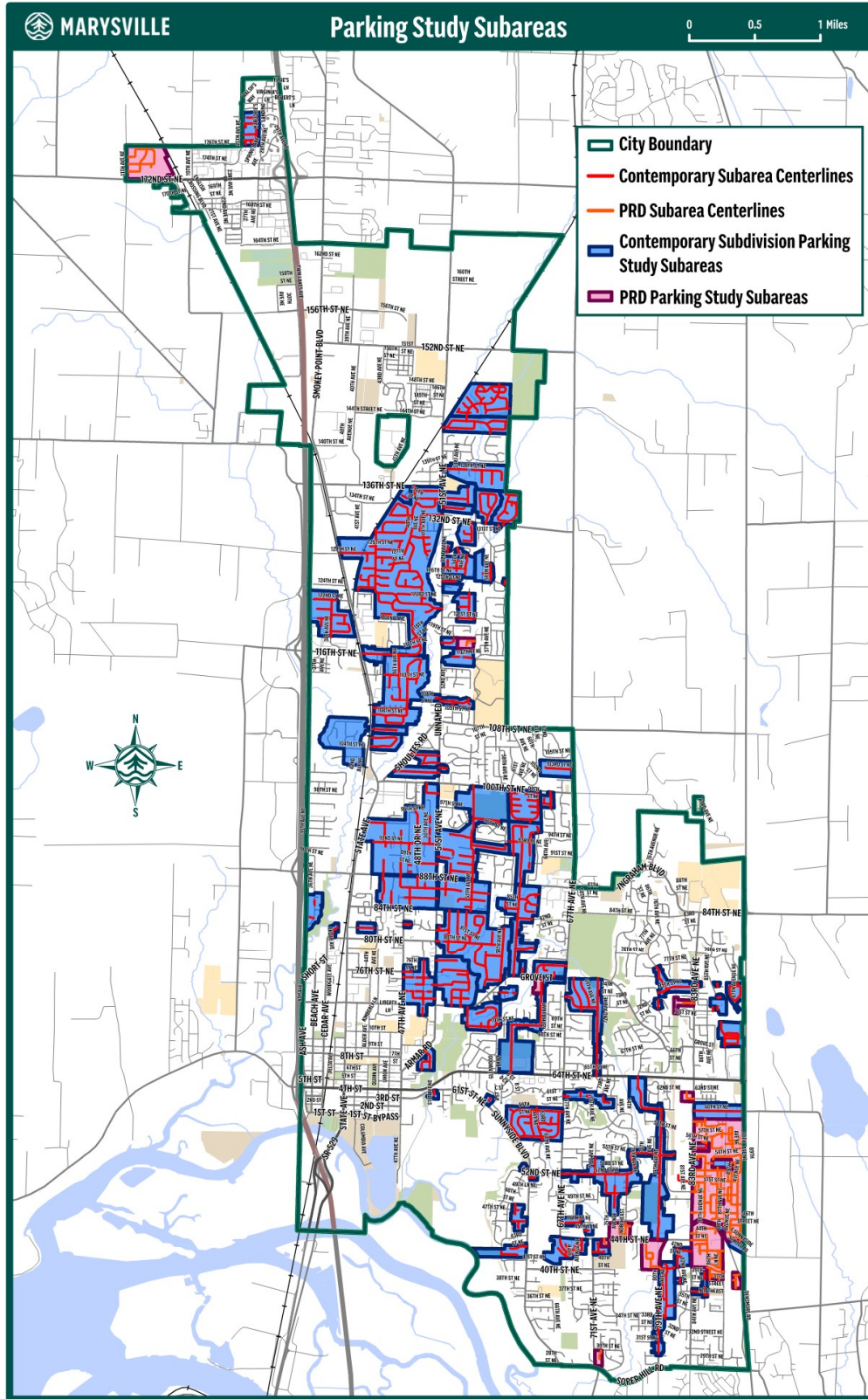


Figure 3. Parking Study Subareas



### *Pedestrian Facilities*

The Transportation Element's pedestrian level of service (LOS) analysis indicates low existing levels of service in many residential neighborhoods due to sidewalk gaps, especially gaps preventing safe, convenient pedestrian access to destinations like parks and schools. The Pedestrian System Plan in the Transportation Element proposes an expansion of the pedestrian network with new sidewalks, crosswalks, and ADA-compliant improvements on arterial and collector roadways, such as along 51st Avenue NE and 88th Street NE; however, these improvements are concentrated on major roadways bordering the Certification Area. As mentioned, limited improvement opportunities exist within the residential neighborhoods to improve frontages due to the Transportation Element's fiscal constraints and prioritization of improvements.

### *Bicycle Facilities*

Existing bicycle facilities in Marysville are limited, consisting mainly of bike lanes along select arterial and collector roadways, with no dedicated lanes or shared-use paths in most neighborhoods. The regional Centennial Trail is located to the east of the City, but direct bicycle facility connections from the City to this regional asset are limited. The Bicycle System Plan in the Transportation Element proposes new facilities such as bike lanes, protected bikeways, and shared-use paths, focusing on arterial and collector roadways – such as improvements along State Avenue and 67th Avenue NE – to improve future bicycle LOS. However, due to the fiscal constraints and prioritization of improvements in the Transportation Element, these improvements would not alter local roadways within the Certification Area neighborhoods, leaving gaps in residential bicycle connectivity.

### *Transit Facilities*

Community Transit provides existing transit service to Marysville but is currently confined to arterial roadways offering infrequent service (30-60 minute headways on routes like 201/202 and 209). The Transit section of the Transportation Element emphasizes continued coordination with Community Transit to expand service, including the proposed Swift Gold Line. The Gold Line would provide high-frequency bus rapid transit (BRT) service primarily along SR 528 through Marysville with 10-15 minute headways. However, this enhanced bus service is not anticipated until 2031, beyond the current five-year certification window analyzed in this study. Future transit improvements emphasize transportation demand management (TDM) programs, but no new routes or stops are anticipated within the Certification Area, with potential new Community Transit service focusing on arterial roadway routes.

## **Neighborhood Typologies within Certification Area**

Within the Certification Area, there are two main neighborhood typologies: contemporary subdivisions and PRDs. For both typologies, a comparison is made to the six typologies identified in Appendix A of Commerce's middle housing guidance. Each typology includes a description of key characteristics, development patterns, connectivity, and automobile dependency.

### *Contemporary Subdivisions*

The predominant development type within the Certification Area is the contemporary subdivision as described in Commerce's guidance; however, the subdivisions that present the greatest challenge to the provision of on-street parking in Marysville might be best characterized as midcentury subdivisions as most date back to the 1950s, 1960s, and 1970s. The subdivisions developed in this era typically did not include sidewalks, curbs, and gutters

along development frontage or space within the paved right-of-way provided for on-street parking. As mentioned, more recent subdivisions present fewer challenges as on-street parking and adequate sidewalks were typically installed.

Within Marysville, the contemporary subdivisions are characterized by a system of local roadways and cul-de-sacs that tie into the City's collector and arterial roadway network. These areas primarily consist of middle and upper middle-income homes on larger lots. As a Tier 2 City, Marysville is required to allow two middle housing units on all residential lots, and four middle housing units on any residential lot located within a quarter mile of a major transit stop or when one dedicated affordable housing unit is provided. Marysville currently does not have any major transit stops; therefore, the requirements related to middle housing and transit do not apply. The City would only be required to allow three or four middle housing units per lot when the affordable housing requirement is met. Potential for new middle housing development is moderate given the larger lots, though portions of these areas currently lack sanitary sewer which could prevent new developments in the near-term.

Key characteristics of Marysville's contemporary subdivisions include:

- Few vacant lots
- Disjointed and meandering street grid due to cul-de-sacs and lack of through connections
- Unimproved frontages lacking curbs, gutters, and sidewalks, with many roadway shoulders originally intended as roadside swales for stormwater detention
- Highly auto-oriented with significant separation of land uses

#### *Planned Residential Developments (PRDs)*

The second most common development type within the Certification Area is the Planned Residential Development. Of the neighborhood typologies identified in Commerce's guidance, the development type that appears most similar to PRDs is the Exurban Subdivision.

Like contemporary subdivisions, PRDs are characterized by a system of local roadways and cul-de-sacs that tie into the City's collector and arterial roadway network. These areas primarily consist of middle and upper middle-income homes on small lots that typically range from 3,500 to 5,000 square feet. Potential for middle housing is low to moderate given the smaller lots; however, accessory dwelling units are more likely to be pursued due to their lower cost and smaller size making them easier to build.

PRD rights-of-way are typically 40 to 50 feet wide depending on the number of lots served in a development. PRD roadways are required to provide sidewalks, curbs, and gutters along development frontage. Where 19 or fewer lots are proposed, a 40-foot right-of-way without on-street parking is required. Where 20 or more lots are proposed, a 50-foot right-of-way with on-street parking is required. A PRD subdivision may include both 40- and 50-foot rights-of-way depending on the configuration of the development. While on-street parking is required on one side of the 50-foot rights-of-way, the narrow lots and close proximity of driveways and curb cuts in PRDs typically result in minimal on-street parking being provided. The minimal on-street parking and small lot sizes in PRDs significantly constrain the potential for middle housing development in these neighborhoods. As such, this study assumes the potential for new middle housing development over the next five years within the Certification Area would predominantly occur in the contemporary subdivisions.

Key characteristics of Marysville's PRDs include:

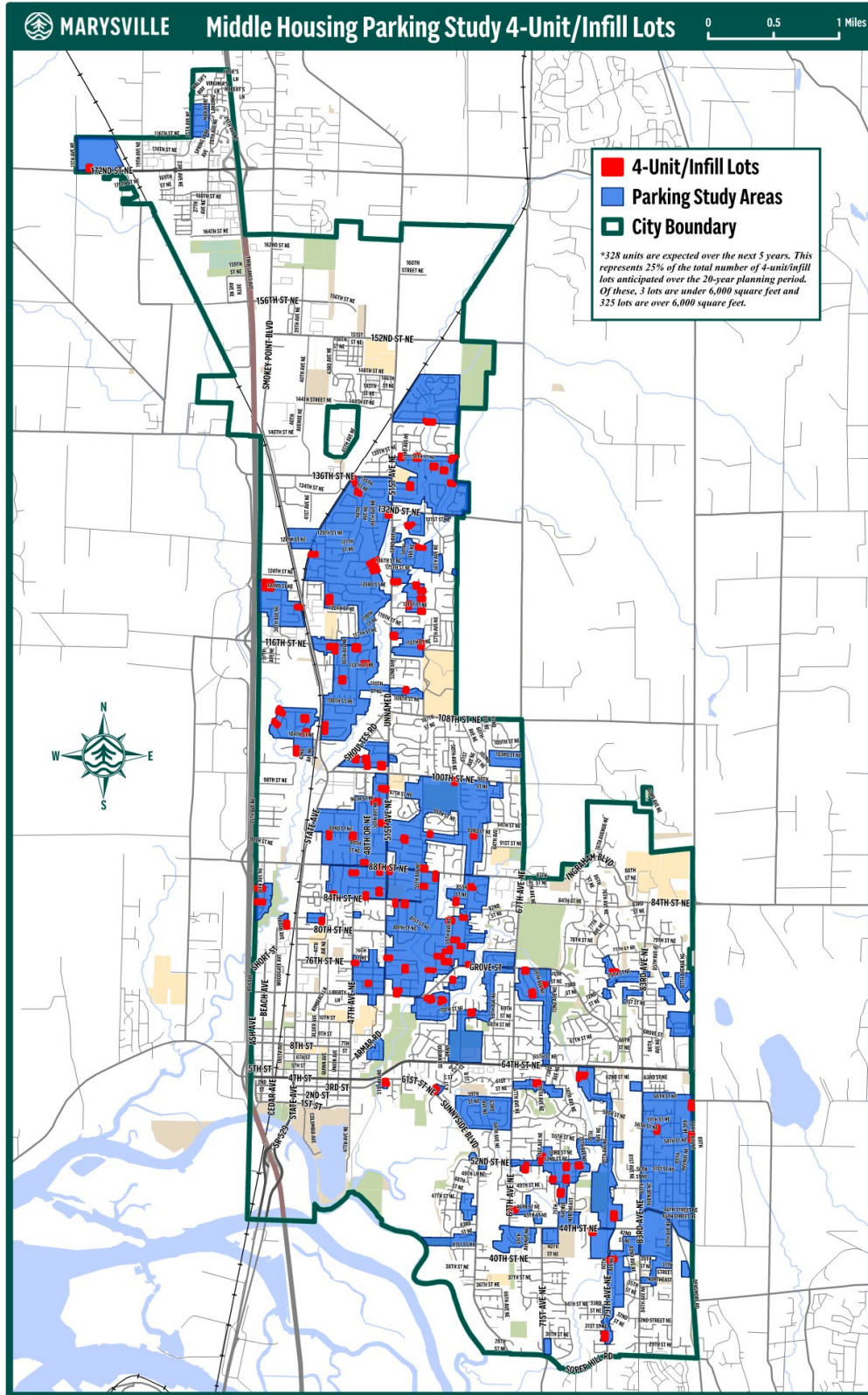


- Few vacant lots
- Somewhat disjointed street grid due to cul-de-sacs and lack of through connections, though potential for through connections is likely in the long-term
- Limited on-street parking due to parking restrictions and high driveway and curb cut frequencies
- Moderately to highly auto-oriented with significant separation of land uses; however, most PRDs are located closer to activity centers compared to contemporary subdivisions

## Anticipated Middle Housing Development

Within the City of Marysville, it is anticipated that 2,156 middle housing dwelling units are expected to be built over the next 20 years as detailed in the Comprehensive Plan's Land Capacity Analysis. Over the next five years, the City is anticipating that approximately 328 middle housing dwelling units (15 percent of the units expected over the next 20 years) will be built within the Certification Area. Locations within the Certification Area where middle housing development is more likely to occur are shown on **Figure 4**.

Figure 4. Middle Housing Parking Study 4-Unit/Infill Lots



## Step 3: Parking Study

Aligning with Commerce guidance, a parking study was conducted to evaluate parking demand for middle housing in the Certification Area, assess the potential for parking spillover with the maximum off-street parking requirements, and analyze existing on-street parking supply and utilization for its ability to accommodate potential parking spillover. The analysis is supported by data from the U.S. Census Bureau's American Community Survey (ACS) for vehicle ownership rates which serve as the primary indicator of anticipated parking demand for middle housing. The City collected existing on-street parking supply and utilization data through a GIS analysis incorporating roadway information from Ecopia AI and aerial imagery collected on two weekday evenings in August 2025. This data was then compiled using GIS software to quantify parking supply (i.e., available curb length converted to parking spaces, excluding restricted areas like hydrants and driveways) and calculate utilization as the percentage of occupied spaces.

Although the Commerce guidance requires jurisdictions seeking an exemption to analyze on-street parking utilization, the City of Marysville's analysis, as described in this chapter, found that overall on-street parking utilization within the Certification Area is adequate to accommodate potential parking spillover from middle housing developments with the state's maximum off-street parking requirements. The exemption request is therefore not based on a Certification Area shortfall of on-street parking supply. Instead, the request is driven by the significant safety concerns that would arise when even modest parking spillover interacts with the specific street character and driveway constraints present in the Certification Area. These street character and driveway safety issues are described further in the following chapter.

### Parking Demand Rates

Parking demand rates for middle housing in Marysville's Certification Area were derived from the most recent ACS 5-year estimates (2020-2024), which provide statistically reliable data on household characteristics for existing Marysville residents. For Marysville overall, the average number of vehicles per owner-occupied household is 2.2. Within the Certification Area only, the average number of vehicles per owner-occupied household is 2.3. This higher average in the Certification Area reflects larger household sizes, higher household incomes, and a greater reliance on vehicles due to limited local amenities and job centers accessible by walking, biking, or taking transit. Middle housing developments are anticipated to generate comparable vehicle ownership demand, as they are expected to attract similar owner-occupied households.

Under RCW 36.70A.635(6), the statutory maximum off-street parking requirements for middle housing for lots greater than 6,000 square feet (where most of the anticipated middle housing development in Marysville would occur) is 2 spaces per unit. Applying the anticipated parking demand of 2.3 vehicles per unit to this off-street supply would result in a projected shortfall of 0.3 vehicle spaces per unit. In contrast, the City's proposed 3 spaces per unit would accommodate the anticipated demand.

To illustrate the implications of the statutory requirement, consider the following examples based on potential middle housing developments:

- **Triplex (3 units):**
  - Parking demand – 7 vehicles (2.3 per unit x 3 units)
  - Maximum off-street requirement – 6 spaces (2 per unit x 3 units)
  - Parking deficit – 1 vehicle

- **Quadplex (4 units):**
  - Parking demand – 9 vehicles (2.3 per unit x 4 units)
  - Maximum off-street requirement – 8 spaces (2 per unit x 4 units)
  - Parking deficit – 1 vehicle

Aggregated across 328 anticipated units over five years, cumulative parking demand for new middle housing developments could reach 754 vehicles. The maximum off-street parking requirements for these anticipated units would be 656 vehicle spaces, leading to 98 vehicles spilling over to on-street parking.

## Parking Spillover Assessment

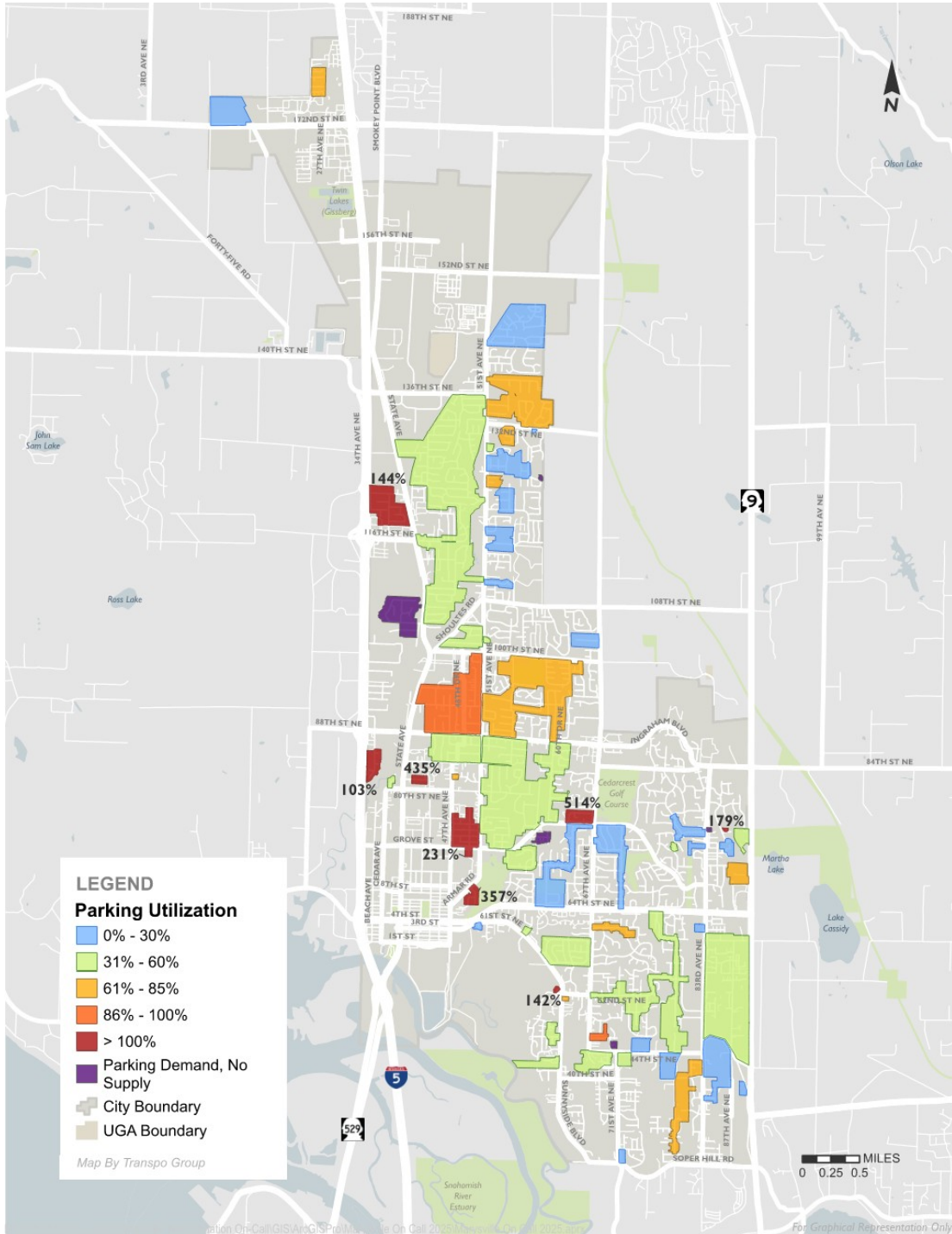
Parking spillover occurs when the provision of off-street parking falls short of actual parking demand, leading to vehicles parking on-street or other adjacent locations. In the Certification Area, parking spillover is projected to occur from the anticipated parking deficit of 98 vehicles, based on the ACS vehicle ownership rates per household exceeding 2 vehicles in the Certification Area. This parking spillover assessment is analyzed at the overall Certification Area level, aggregating the anticipated middle housing development over the next five years (328 units) and the overall on-street parking availability to accommodate parking spillover.

A comprehensive review of existing on-street parking supply and demand was conducted to evaluate whether adequate on-street parking capacity exists to accommodate anticipated parking spillover from new middle housing developments. On-street parking demand data collection was conducted via aerial imagery on two weekday evenings in August 2025, approximating peak residential demand for parking. On-street parked vehicles were then counted manually from the footage and incorporated into the City's GIS database. On-street parking supply was calculated from roadway information provided by Ecopia AI and the City's GIS data layers. As documented in Appendix A, the on-street parking supply only included legal on-street parking spaces with appropriate buffers set for proximity to intersections, fire hydrants, mailboxes, driveways, or portions of curb space too narrow to accommodate parked vehicles.

**Figure 5** shows the resulting on-street parking utilization for each subarea within the overall Certification Area. Average utilization across the entire Certification Area during the highest observed demand period was 37%. Adding 98 spillover vehicles from new middle housing developments to this observed utilization would allow for on-street parking utilization to remain adequate – amounting to an approximately 2% increase in utilization, or 39% overall. However, it's important to note that some subareas within the Certification Area have very high parking utilization, with some subareas even exceeding 100% on-street parking utilization due to illegally parked vehicles (especially within neighborhoods with narrow roadways), as shown in **Figure 5**.

While the findings indicate that the on-street parking supply in the Certification Area is adequate overall to accommodate spillover parking demand from new middle housing developments, this parking spillover could still pose significant safety issues due to local roadway design constraints within the Certification Area. The local roadway design constraints include narrow roadways where parked vehicles would constrain vehicle access especially for emergency vehicles, roadways without curbs or sidewalks to provide a safe walking environment, wide roadways that increase exposure risks for people crossing the street and biking, and roadways within PRD zones with fragmented curb space due to high driveway frequencies. These constraints are explored in further detail in the following chapter.

Figure 5. Certification Area On-Street Parking Utilization



## Step 4: Safety Analysis

This chapter evaluates how the State's maximum off-street parking requirements for middle housing would impact safety for people driving, walking, or biking and for emergency vehicle access within the Certification Area due to the anticipated increase in on-street parking spillover. This analysis focuses on street characteristics within the Certification Area that could cause significant safety issues from the anticipated parking spillover, including roadway widths, presence or absence of curbs and sidewalks, crossing distances, and driveway frequencies. Although the parking study found that overall on-street parking utilization would be adequate to accommodate anticipated parking spillover, safety issues would still arise due to the street characteristics described in this chapter. These issues would make conditions significantly less safe than if the City's proposed 3 off-street parking spaces per middle housing residence were required within the Certification Area.

### Street Character

Street character, as described in the Commerce guidance, encompasses the physical design and configuration of roadways, including right-of-way and pavement width, curvature, presence of curbs and sidewalks, and overall typology. The following street character traits influence how parking spillover affects safety for all roadway users.

#### *Narrow Roadways (less than 24 feet pavement width)*

Narrow roadways are common in the older subdivisions within the Certification Area. Narrow roadways become more hazardous when additional on-street parking is introduced since on-street parking constrains the effective travel width needed for safe two-way traffic operation, passing maneuvers, and emergency vehicle access. For this analysis, 24 feet was identified as the narrow roadway threshold since this pavement width is the minimum required for adequate emergency vehicle access based on IFC regulations. For people driving, narrow roadways with on-street parking can contribute to sideswipe risks, sudden braking, and head-on conflict potential.

#### *Wide Roadways (more than 36 feet pavement width)*

Wide roadways encourage higher vehicle speeds and create longer crossing distances for people walking. The Commerce guidance notes that wide streets increase exposure for people walking and biking and reduce driver awareness and visibility of non-motorized roadway users. For this analysis, 36 feet was identified as the wide roadway threshold since this pavement width provides adequate space for two 10-foot vehicle travel lanes and two 8-foot parking lanes on a local roadway. While intersection treatments such as curb extensions and high visibility crosswalks could help mitigate these safety risks, the City's Transportation Element has not identified these types of improvements for the local roadway intersections within the Certification Area as the Transportation Element is fiscally constrained and can only consider a select number of higher priority improvements.

#### *Unimproved Frontages (i.e., no curbs, gutters, or sidewalks)*

Unimproved frontages are common in the older subdivisions within the Certification Area as many of these developments were built prior to the City's current frontage improvement requirements. The Commerce guidance identifies unimproved frontages as a key safety concern since additional on-street parked vehicles – often parked along informal shoulder areas – can obstruct safe movement for people walking. Unimproved frontages are also not ADA-compliant, significantly limiting on-street parked vehicle access for people with mobility challenges. An increase in on-street parked vehicles along roadways with unimproved frontages could force people to walk directly within the vehicle travel lanes. Many of the

unimproved frontages within the Certification Area also function as roadside bioswales. The addition of on-street parked vehicles could impact the proper stormwater management function of these local roadways.

In Marysville, the Certification Area was identified as a selection of neighborhoods with roadways that contain one or more of these roadway constraints, in addition to high driveway frequencies which are discussed later in this chapter. **Figures 6 and 7** show the roadways with these constraints within the Certification Area.

## On-Street Parking Utilization

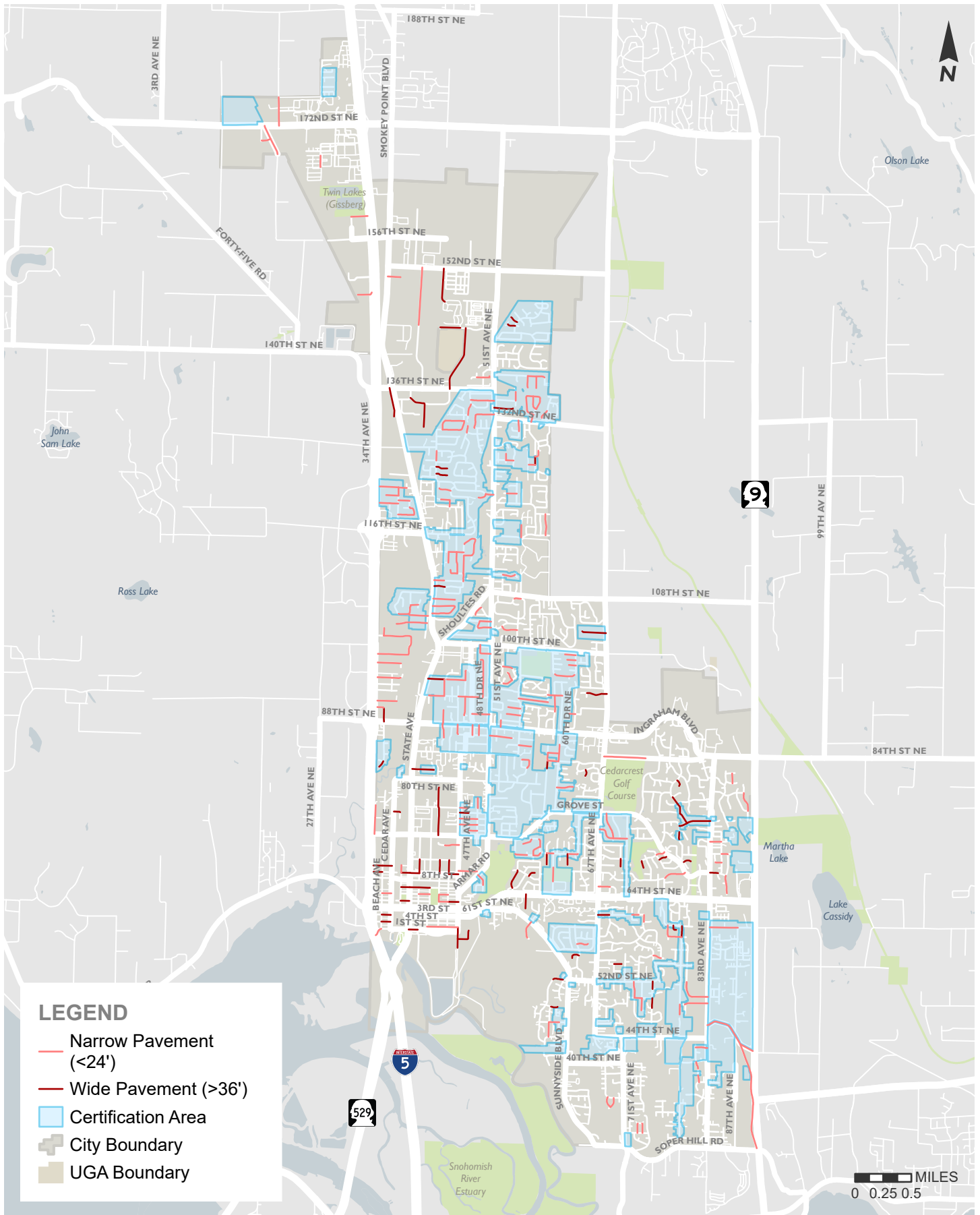
Areas with constrained on-street parking utilization can also lead to safety issues, as described in the Commerce guidance, as high utilization can lead to illegal parking or constrained access. The Commerce guidance notes that even moderate utilization (e.g., 70-85%) can cause issues along some roadway typologies. As mentioned, this study found that overall on-street parking utilization within the Certification Area is adequate to accommodate the additional capacity anticipated with new middle housing developments, and the exemption request instead focuses on the street character and driveway constraints which cause significant safety issues.

Additional parking spillover is projected to increase overall on-street parking utilization within the Certification Area by approximately 2%. Although overall capacity is adequate, some areas within the Certification Area which already have high on-street parking utilization may experience challenges accommodating new on-street parking demand.

## Driveways

The Commerce guidance highlights high driveway frequencies (e.g., where development is compact or clustered) as a potential safety concern for on-street parking since they fragment curb space and limit opportunities to provide on-street parking.

In PRD zones within the Certification Area, on-street parking is generally limited due to parking restrictions and high driveway frequencies. Given the limited on-street parking in PRD zones, increasing the on-street parking demand with the lower parking requirement could result in illegal parking, parked vehicles blocking driveways, and excess circulation and vehicle miles traveled (VMT) on the transportation network with drivers searching for parking.



# Existing Local Routes Pavement Widths

Marysville On-Call 2026

**DRAFT**

transpogroup

FIGURE

**6**



## Step 5: Findings and Certification Request

This study finds that the State's maximum off-street parking requirements for middle housing under RCW 36.70A.635 would be significantly less safe for people driving, walking, or biking and for emergency vehicle access than the City of Marysville's proposed requirement of 3 spaces per middle housing residence within the Certification Area. The findings focus primarily on street characteristics that would worsen safety issues with an increase in parking spillover, as described in the Commerce guidance, including narrow roadway widths limiting access, wide roadways increasing crossing exposure, unimproved frontages without curbs or sidewalks preventing safe and convenient access to parked vehicles, and high driveway frequencies in PRD zones constraining on-street parking opportunities. The evidence compiled in this study is drawn from data sources such as U.S. Census Bureau ACS vehicle ownership estimates, aerial parking utilization surveys, existing roadway characteristics, and the City's 2024 Transportation Element.

### Summary of Empirical Evidence

The empirical analysis described in this report establishes that applying the statutory maximum parking requirement for middle housing – typically 2 off-street parking spaces per middle housing unit – would result in parking spillover that would contribute to significant safety issues based on the Certification Area's street characteristics as compared to the City's proposed requirement of 3 off-street parking spaces per middle housing unit. The City's proposed requirement would largely prevent additional parking spillover within the Certification Area neighborhoods.

Key qualitative findings on street characteristics that cause safety issues include:

- **Narrow Roadways (less than 24 feet wide):** These roadways are predominant in older subdivisions within the Certification Area. These roadways prevent the safe provision of on-street parking since on-street parking would reduce the effective travel lanes to be less than required for two-way traffic and emergency vehicle access.
- **Wide Roadways (more than 36 feet wide):** These roadways facilitate higher vehicle speeds and extend crossing distances, increasing exposure for people walking and biking.
- **Unimproved Frontages (no curbs or sidewalks):** Many local roadways within the Certification Area lack continuous curbs and sidewalks, preventing safe and convenient access to parked vehicles.
- **High Driveway Frequencies:** The PRD zones within the Certification Area have high driveway frequencies which fragment the curb space and constrain on-street parking opportunities.

These street characteristics, combined with high vehicle ownership in the Certification Area and limited multimodal travel options (i.e., infrequent transit and incomplete pedestrian and bicycle networks) leading to increased parking spillover, would contribute to significant safety issues due to the state's maximum off-street parking requirements for middle housing.

The City recommends applying its existing single-family residence minimum parking requirement of 3 off-street spaces per residence to all middle housing developments within the Certification Area. The City of Marysville respectfully requests certification from the Washington State Department of Commerce for an exemption from the maximum off-street

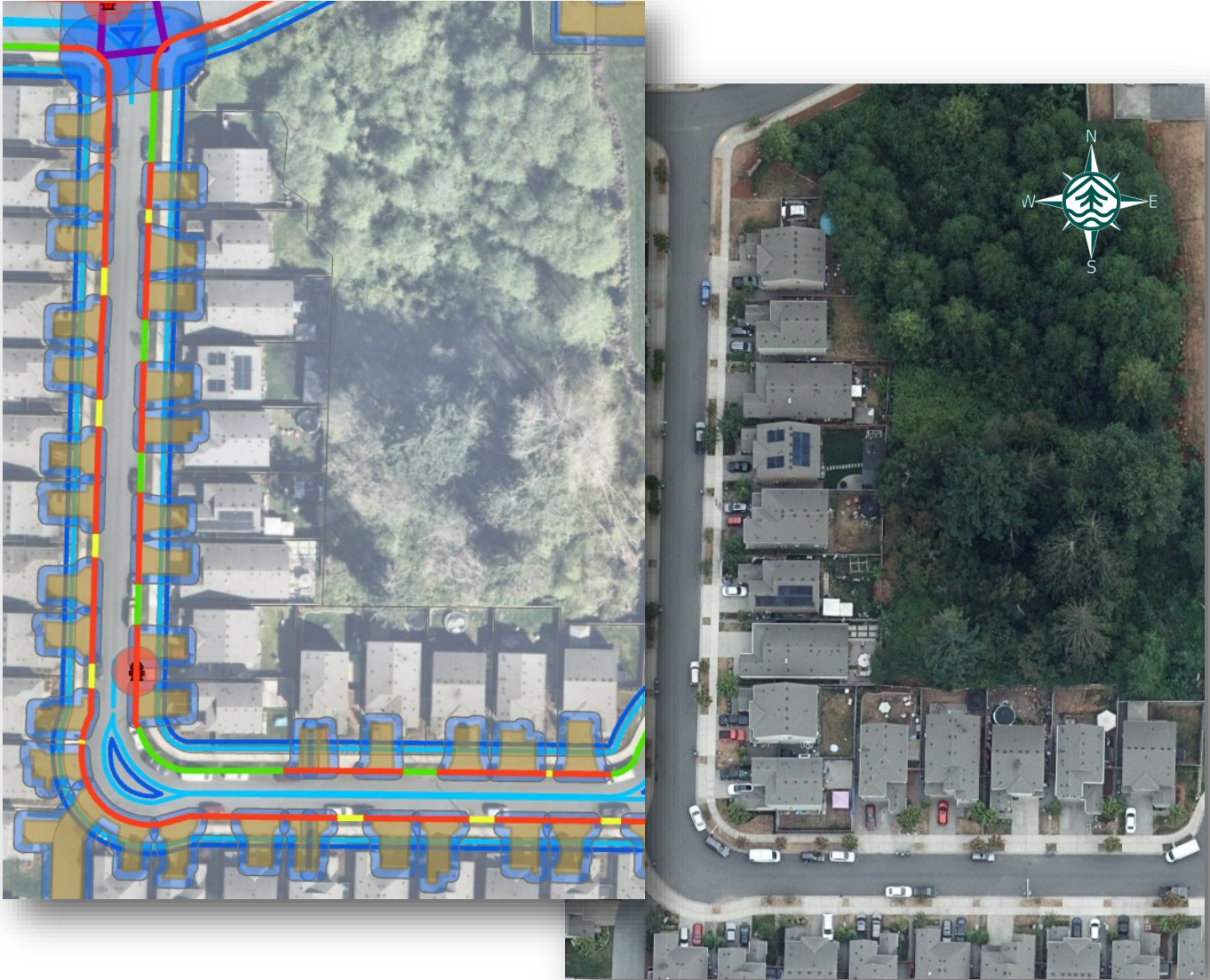
parking requirements for middle housing under RCW 36.70A.635 within the defined Certification Area, based on the empirical evidence presented in this study.

## Appendix A: GIS Procedure

# CITY OF MARYSVILLE

## Middle Housing Parking Study

### GIS Procedure



**MARYSVILLE**  
WASHINGTON

# CITY OF MARYSVILLE

## Middle Housing Parking Study GIS Procedure

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## Executive Summary

The City of Marysville is exploring parking supply and demand throughout areas subject to upcoming middle housing standards. As part of the City's assessment, a Geographic Information Systems (GIS) analysis of parking supply was conducted along with a review of aerial images using GIS to record observed parking demand.

To assess current parking supply, the City's GIS Team utilized land use datasets purchased from Ecopia AI in conjunction with the City's Enterprise GIS streets and utilities assets. GIS features representing fire hydrants, stop and yield signs, crosswalks, driveways, and railroads were buffered to reflect parking restrictions contained in RCW 46.61.570. These buffers were intersected with a GIS layer representing pavement edge to assign areas of restricted parking. A calculation on remaining parking areas not contained within restricted parking buffers was completed to determine the number of 20-foot-long parallel parking spaces available. Finally, the City's Enterprise GIS signs dataset was referenced to exclude restricted parking areas determined by no parking signage. Parking supply determined using this method is considered "Option 1".

A secondary GIS analysis was performed to determine parking supply "Option 2", in which all parking restrictions consistent with RCW 46.61.570 were retained in addition to consideration of pavement widths. Based on thresholds determined by the City of Marysville Engineering Department's Traffic Engineering Division, pavement with a width less than 17 feet was determined inadequate for parking with no available parking supply. Pavement width between 17 feet and 35 feet allowed for parking on one side of the roadway and pavement width 35 feet or greater allowed for parking on both sides of the street.

The City contracted two evening flights with a fixed-wing pilot to capture aerial imagery to be utilized to determine parking demand. These flights occurred on August 1, 2025 and August 5, 2025. To assess peak parking demand, the flights were conducted as late in the evening as possible while still able to clearly assess parking conditions within the imagery. Using GIS desktop software, City staff assigned observed parking counts to centerline segments representing roadways within the study. Additionally, parking demand was recorded along roadway segments within an 800-foot buffer from the parking study area.

Roadway segments were omitted from the study that correspond to arterial roadways with no parking allowed.

# Procedure Overview

The following sections detail the technical process and assumptions used to carry out the GIS analysis. Technical procedures are written for ArcGIS Pro version 3.5.2. All field calculations utilize the Python programming language. For any questions regarding the GIS analysis, please reach out to [gisservice@marysvillewa.gov](mailto:gisservice@marysvillewa.gov).

Last Updated: 5/6/2026

## GIS Staff Contributions:

Jacob Milner - *GIS Manager*

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# Parking Supply – Contemporary Roadways

## Data Preparation

### Pavement Edge Polyline

Data Source: Parking Study.gdb\Pavement\_Edge

1. Convert Cartography.sde\DBO.EcopiaRoads to a polyline feature class using **Data Management toolbox – Features toolset – Polygon to Line** to create **Output Feature Class**, Parking Study.gdb\Pavement\_Edge.
  - a. Note: Ecopia Roads is a polygon feature class derived from a landcover classification generated by Ecopia’s AI models. The dataset is based on Nearmap August 2023 imagery.
2. Manually clip line segments based on three Transportation feature classes
  - i. Wide Residential Roads
    - o Data Source: Parking Study.gdb\Reference\_Wide\_Residential\_Roads
  - ii. Bike Routes (Source: Transpo)
    - o Data Source: Parking Study.gdb\Reference\_Bike\_Routes\_Transpo
  - iii. Roads Without Sidewalks.
    - o Data Source: Parking Study.gdb\Reference\_Roads\_Without\_Sidewalks
  - iv. PRD Roads
    - o Data Source: Parking Study.gdb\Reference\_PRD\_Roads
- b. Where study area roadways intersect roadways omitted from the study, the pavement edge lines are split by extending the nearest adjacent parcel/right-of-way boundary line, parallel to the line into the intersection.

- c. The following roadways are arterial or higher classification roadways that prohibit on-street parking; therefore, these are omitted from the parking study:
  - i. 51<sup>st</sup> Ave NE (Grove St to Northern City Limits)
  - ii. 100<sup>th</sup> St NE (State Ave to 67<sup>th</sup> Ave NE)
  - iii. Shoultes Rd
  - iv. 88<sup>th</sup> St NE (I-5 to 67<sup>th</sup> Ave NE)
  - v. Ingraham Blvd (67<sup>th</sup> Ave NE to State Route 9)
  - vi. 84<sup>th</sup> St NE (45<sup>th</sup> Dr NE to 55<sup>th</sup> Ave NE)
  - vii. 84<sup>th</sup> St NE (82<sup>nd</sup> Ave NE to State Route 9)
  - viii. 83<sup>rd</sup> Ave NE (Soper Hill Rd to 84<sup>th</sup> St NE)
  - ix. 87<sup>th</sup> Ave NE (Soper Hill Rd to 60<sup>th</sup> St NE)
  - x. Sunnyside Blvd
  - xi. 40<sup>th</sup> St NE (Sunnyside Blvd to 73<sup>rd</sup> Dr NE)
  - xii. 40<sup>th</sup> St NE (79<sup>th</sup> Ave NE to 83<sup>rd</sup> Ave NE)
  - xiii. 71<sup>st</sup> Ave NE (Soper Hill Rd to 44<sup>th</sup> St NE)
  - xiv. Grove St (Cedar Ave to 74<sup>th</sup> St NE)
  - xv. Ash Ave (9<sup>th</sup> St to Grove St)
  - xvi. 67<sup>th</sup> Ave NE (44<sup>th</sup> St NE to 108<sup>th</sup> St NE)
  - xvii. 132<sup>nd</sup> St NE (51<sup>st</sup> Ave NE to 58<sup>th</sup> Ave NE)
  - xviii. 8<sup>th</sup> St (Ash Ave to State Ave)
  - xix. 1<sup>st</sup> St (State Ave to 47<sup>th</sup> Ave NE)
  - xx. 61<sup>st</sup> St (47<sup>th</sup> Ave NE to 57<sup>th</sup> Dr NE)
3. Add new attribute fields to Pavement\_Edge:
  - Field Name = Restrictions
    - Alias = “Restrictions”, Data Type = Text, Length = 500
  - Field Name = Comments
    - Alias = “Comments”, Data Type = Text, Length = 500
  - Field Name = Parking\_Count
    - Alias = “Parking Count, Decimal”, Data Type = Double
  - Field Name = Parking\_Count\_Integer
    - Alias = “Parking Count, Integer”, Data Type = Short
4. The Ecopia datasets are based on August 2023 imagery; some portions of the study area were built after the imagery capture and not contained in the Ecopia datasets. For these areas, create new line features for edge of pavement. Pavement should be digitized to include gutters and should represent the area extending from curblineline to curblineline.
  - a. After digitizing pavement segments, it is likely necessary to digitize missing driveways. The easiest way to accomplish this is to digitize features in Parking Study.gdb\Driveway\_Lines and trace the pavement edge. See the Driveway Lines section.

## Fire Hydrants

Hydrants Data Source: Parking Study.gdb\Hydrants\_SelectionDistance40ft

Buffer Data Source: Parking Study.gdb\Hydrants\_Buffer\_15ft

1. From Water\_Uilities.sde\DBO.Water\_Uilities\DBO.wHydrant (Marysville's Enterprise GIS dataset), Select By Location all features within a distance of 40 US Survey Feet from the Pavement\_Edge layer. Export selected features to Parking Study.gdb\Hydrants\_SelectionDistance40ft.
2. Use **Editing toolbox – Snap tool** with **Input Features** Hydrants\_SelectionDistance40ft. In the **Snap Environment** section, set **Features** to Pavement\_Edge with **Distance** set to 40 US Survey Feet.
3. Manually review each hydrant to ensure features were snapped to the nearest edge of pavement. Delete all hydrants pulled across intersections. Relocate hydrants pulled to the end of pavement segments to the true location where hydrants intersect the pavement edge.
4. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Hydrants\_SelectionDistance40ft by a **Distance** of 15 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Hydrants\_Buffer\_15ft. Set the **Method** to **Planar** and **Dissolve Type** to **No Dissolve**.
  - a. The 15-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(ii).

## Stop & Yield Signs

Signs Data Source: Parking Study.gdb\Stop\_Signs\_SelectionDistance20ft

Buffer Data Source: Parking Study.gdb\Stop\_Signs\_Buffer\_30ft

1. From Transportation.sde\DBO.Signage\DBO.SignEdits (Marysville's Enterprise GIS dataset), set a definition query to include all stop and yield signs: SIGNCODE IN ('R1-1', 'R1-2') Or SIGNTEXT IN ('Yield', 'Stop') Or SIGNDESC IN ('Stop Sign', 'Stop', 'Yield'). Select By Location all features within a distance of 20 US Survey Feet from the Pavement\_Edge layer. Export selected features to Parking Study.gdb\Stop\_Signs\_SelectionDistance20ft.
2. Use **Editing toolbox – Snap tool** with **Input Features** Stop\_Signs\_SelectionDistance20ft. In the **Snap Environment** Section, set **Features** to Pavement\_Edge with **Distance** set to 20 US Survey Feet.
3. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Stop\_Signs\_SelectionDistance20ft by a **Distance** of 30 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Stop\_Signs\_Buffer\_30ft. Set the **Method** to **Planar** and **Dissolve Type** to **No Dissolve**.
  - a. The 30-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(iv).
4. Manually review each stop/yield sign (433 features) and associated buffers. Ensure features are snapped to an appropriate location along pavement edge. If necessary,

move features and associated buffers to the edge of Pavement\_Edge adjacent to the sign post, visible in imagery.

5. Once location is confirmed, split each sign buffer perpendicular to Pavement\_Edge to only include the approach to the signage; delete the portion of the buffer on the intersection side of the sign. If applicable, split and remove any part of the buffer that reaches the opposite side of the street and intersects Pavement\_Edge.

## Crosswalks

Crosswalks Data Source: Parking Study.gdb\Crosswalks

Buffer Data Source: Parking Study.gdb\Crosswalks\_Buffer

1. Create a new polyline layer, Parking Study.gdb\Crosswalks. Add new attribute fields:
  - Field Name = Comments
    - Alias = “Comments”, Data Type = Text, Length = 255
  - Field Name = Buffer\_Dist
    - Alias = “Buffer Distance”, Data Type = Short Integer
2. Digitize all crosswalks throughout the study area, defined by the extents of Pavement\_Edge. Crosswalk geometry and attributes are assigned based on the type of crosswalk:
  - a. Marked Crosswalk
    - i. If curb ramps are present, the crosswalk polyline is drawn to connect the centers of the yellow tactile ADA warning pads.
    - ii. In the Comments field, Field Calculate Comments = 'Marked Crosswalk with Curb Ramps'. In the Buffer\_Dist field, Field Calculate Buffer\_Dist = 25.
      1. The 25-foot buffer represents 5 feet on either side of the centerline of the crosswalk, plus a 20-foot buffer to reflect parking restrictions contained in RCW 46.61.570(1)(b)(iii).
  - b. Unmarked Crosswalk with one or more curb ramps
    - i. If two curb ramps are present, the centers of the yellow tactile ADA warning pads are connected. If only one curb ramp is present, the center of the yellow tactile ADA warning pad is connected on one side and drawn to where a crosswalk would reasonably expect to connect (typically perpendicular to the crossing roadway).
    - ii. In the Comments field, Field Calculate Comments = 'Unmarked Crosswalk with Curb Ramps'. In the Buffer\_Dist field, Field Calculate Buffer\_Dist = 25.
      1. The 25-foot buffer represents 5 feet on either side of the centerline of the crosswalk, plus a 20-foot buffer to reflect parking restrictions contained in RCW 46.61.570(1)(b)(iii).
  - c. Unmarked Crosswalk

- i. Even if no ADA features such as sidewalks, ADA curb ramps, or pavement markings for crosswalks are present, unmarked crosswalks exist at every public street intersection. These are digitized by connecting the location where the tangential curve of the pavement at an intersection begins (i.e. the last location where the pavement is aligned with the direction of travel before the curve into the adjacent street corner).
    1. Exceptions to a public street intersection include locations where public streets intersect alleyways, auto courts, driveways, and private roads. This includes curb ramps that cross alleyways.
  - ii. In the Comments field, Field Calculate Comments = 'Unmarked Crosswalk'. In the Buffer\_Dist field, Field Calculate Buffer\_Dist = 30.
    1. The 30-foot buffer represents a 10-foot crosswalk extended away from the intersection beginning at the location the unmarked crosswalk was drawn, plus a 20-foot buffer to reflect parking restrictions contained in RCW 46.61.570(1)(b)(iii).
3. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Crosswalks with **Field** Buffer\_Dist and set **Output Feature Class** to Parking Study.gdb\Crosswalks\_Buffer. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.

## Driveway Polygons

Driveways Data Source: Parking Study.gdb\Driveways

Buffer Data Source: Parking Study.gdb\Driveways\_Buffer\_5ft

1. From Cartography.sde\DBO.Ecopia\_Landcover\_2024, set a definition query CateTitle = 'driveway'. Then, Select By Location all features within a distance of 5 US Survey Feet from Pavement\_Edge. Export selected features to Parking Study.gdb\Driveways.
2. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Driveways with **Distance** set to 5 US Survey Feet. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.
  - a. The 5-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(i).

## Driveway Lines

Driveway Lines Data Source: Parking Study.gdb\Driveway\_Lines

Buffer Data Source: Parking Study.gdb\Driveway\_Lines\_Buffer\_5ft

1. Create a new polyline layer, Parking Study.gdb\Driveway\_Lines. Most driveways are contained within the Parking Study.gdb\Driveways dataset. If any are missing, new features can be digitized by tracing the edge of the Pavement\_Edge feature class. Driveways should be drawn where the driveway intersects the pavement and extend across the driveway to the other intersection between the pavement and driveway.
  - a. Note all alleyways and auto courts are drawn as driveways, regardless of whether they are within the public right-of-way. All private roads are also drawn as driveways. In most cases, these are drawn by connecting the points where the tangential curve into the private roadway begins.
2. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Driveway\_Lines with **Distance** set to 5 US Survey Feet. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.
  - a. The 5-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(i).

## Railroads

Railroads Data Source: Parking Study.gdb\Railroad\_Rails

Buffer Data Source: Parking Study.gdb\Railroad\_Buffer\_50ft

1. Create a new polyline layer, Parking Study.gdb\Railroad\_Rails. Digitize a line feature along each railroad track crossing a roadway contained within the study area.
2. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Railroad\_Rails by a **Distance** of 50 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Railroad\_Buffer\_50ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.

## Assigning Parking Supply Values to Pavement Lines – Option 1

### Creating Intersect Points

Data Source: Parking Study.gdb\Intersects\_Combined

1. Run **Analysis toolbox – Overlay toolset – Intersect tool**, using each buffer layer along with Pavement\_Edge as the **Input Features**. Note only one buffer layer may be run at a time. Using fire hydrant buffers as an example, set the **Output Feature Class** to Parking Study.gdb/Hydrants\_Buffer\_Intersects with **Attributes To Join** set to **Only feature** IDs and **Output Type** set to **Point**.
2. Repeat this process for all other buffer layers until intersect features exist for fire hydrants, stop and yield signs, crosswalks, driveways, and railroads.
3. Using the Data Management toolbox – General toolset – Merge tool, select all buffer intersect feature classes in the Input Datasets dropdowns. Set the **Output Dataset** to Parking Study.gdb\Intersects\_Combined. Set **Field Matching Mode** to the default choice, **Automatically generate fields consolidated from all inputs**.

## Splitting Pavement Lines

Data Source: Parking Study.gdb\Parking\_Option1

1. Launch **Data Management toolbox – Features toolset – Split Line At Point tool**. Set **Input Features** to Parking Study.gdb\Pavement\_Edge, **Point Features** to Parking Study.gdb\Intersects\_Combined, **Output Feature Class** to Parking Study.gdb\Parking\_Option1, and **Search Radius** to 1 US Survey Feet.

## Populating Parking Restriction and Parking Count Attributes

1. Using the **Select By Location** tool, use **Input Features** Parking Study.gdb\Parking\_Option 1 with **Relationship** set to **Within the Selecting Features** Parking Study.gdb\Hydrants\_Buffer\_15ft. Leave the **Search Distance** blank and set **Selection Type** to **New selection**.
  - a. Open the attribute table for Parking\_Option1. Set the table view to Show Selected Results.
  - b. In the Restrictions field, Field Calculate Restrictions = 'Fire Hydrant'.
2. Repeat the **Select By Location** process for all other buffer feature classes
  - a. When conducting the Field Calculate for the Restrictions field, be sure to filter the Restrictions field first, then highlight all <Null> values to Field Calculate the new restriction type for all <Null> values. Next, highlight all non-null values. Using Stop/Yield Signs as an example, Field Calculate Restrictions = !Restrictions! + ', Stop Sign Approach'.
3. Using **Select By Attributes** and **Input Rows** Parking\_Option1, create a **New Selection Where Restrictions is not null**.
  - a. In the Parking\_Count field, Field Calculate Parking\_Count = 0.
  - b. In the Parking\_Count\_Integer field, Field Calculate Parking\_Count\_Integer = 0.
4. Using **Select By Attributes** and **Input Rows** Parking\_Option1, create a **New Selection Where Restrictions is null**.
  - a. In the Parking\_Count field, Field Calculate Parking\_Count = !Shape\_Length!/20.
  - b. In the Parking\_Count\_Integer field, Field Calculate Parking\_Count\_Integer = int(!Parking\_Count!).

## Data Display

It is helpful to change symbology for Parking\_Option1 to display parking supply. Set **Primary symbology** to **Graduated Colors** using the **Field, Parking\_Count\_Decimal**. Set **Normalization** to <None>, **Method** to **Manual Interval**, **Classes** to **3**, and **Color scheme** to the green to red gradient “Multipart Color Scheme”. Set the classes with **Upper values** equal to 0, 1, and 100. If necessary, flip the color ramp so the red line is the class set to the Upper value of 0.

- With this symbology, red indicates locations where parking is restricted. Yellow indicates locations where parking is allowed, but there is not enough room for parallel parking. Green indicates locations where parking is allowed and there is enough room for at least one vehicle to parallel park.

## Data Cleanup

Manually sweep through the entire study area, ensuring line segments make sense in relation to all buffer layers. While reviewing each segment, also check for:

1. No Parking Signage
  - a. Using Transportation.sde\DBO.Signage/DBO.SignEdits (Marysville's Enterprise GIS dataset), review all signage to determine if Parking\_Option1 should be revised.
  - b. If signage prohibits parking, select affected segments and Field Calculate Restrictions = 'No Parking Signage', Parking\_Count = 0, and Parking\_Count\_Integer = 0. If necessary, first split features to capture a more accurate location for the affected area.
    - i. This reflects parking restrictions contained in RCW 46.61.570(1)(b)(ii).
2. Intersections
  - a. If any features within Parking\_Option1 reflect parking allowed at an intersection between two or more public roadways, these segments should be edited. Field Calculate Restrictions = 'Intersection', Parking\_Count = 0, and Parking\_Count\_Integer = 0.
    - i. This reflects parking restrictions contained in RCW 46.61.570(1)(a)(iii).
3. Bike Lanes
  - a. If any features within Parking\_Option1 show that parking is allowed where bike lanes are visible in aerial imagery, these segments should be edited. Field Calculate Field Calculate Restrictions = 'Bike Lane', Parking\_Count = 0, and Parking\_Count\_Integer = 0.
4. Designated Parking Stalls
  - a. If parking is delineated by on-street parking with marked angled or parallel parking stalls, features within Parking\_Option1 are split to reflect the extent of the marked parking. For angled parking, Field Calculate Comments = 'Parking count determined by marked parking stalls instead of Shape\_Length calculation' and Field Calculate the number of marked parking spots in Parking\_Count and Parking\_Count\_Integer fields.
5. Geometry Cleanup
  - a. Using **Select By Attributes** and **Input Rows** Parking\_Option1, create a **New Selection Where Restrictions is null And Comments is null**.
    - i. In the Edit tab,, select the **Merge tool** and merge features.
    - ii. In the Edit tab, select the **Explode tool** to explode features.
    - iii. With the selection still active, Field Calculate Parking\_Count = !Shape\_Length!/20 and Parking\_Count\_Integer = int(!Parking\_Count!).

## Assigning Parking Supply Values to Pavement Lines – Option 2

### Creating Pavement Width Buffers

1. Create a copy of Parking\_Option1 by exporting to Parking Study.gdb\Parking\_Option2.
2. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Parking\_Option2 by a **Distance** of 13.5 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Pavement\_BufferDissolve\_13half\_ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **Dissolve all output features into a single feature**.
3. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study.gdb\Parking\_Option2 by a **Distance** of 17.5 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Pavement\_BufferDissolve\_17half\_ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **Dissolve all output features into a single feature**.

### Determining Parking Supply Using Buffers

1. Symbolize both polygon buffer layers without a fill and with distinct outline colors that are easy to differentiate from one another.
2. Manually review the entire study area, paying close attention to the buffer layers.
  - a. If the outline of Pavement\_BufferDissolve\_17half\_ft is visible in the center of a roadway, the roadway is at least 35 feet wide and therefore wide enough for parking on both sides of the road. In this scenario, all assumptions from Option 1 can be retained and no further editing of parking segments needs to occur.
    - Note the actual pavement width requirement for parking on both sides of the road is 36 feet, as determined by the City of Marysville Engineering Department's Traffic Engineering Division. This has been reduced to 35 feet to account for location inaccuracies within Ecopia's AI models, which is the original source of the pavement edge data.
  - b. If the outline of Pavement\_Buffer\_Dissolve\_13half\_ft is visible in the center of a roadway and the outline of Pavement\_Buffer\_Dissolve\_17half\_ft is not visible, the roadway is between 17 feet and 35 feet wide and therefore wide enough for parking on one side of the road only. In this scenario, if parking features show available parking on both sides of the street, one side must be edited to show the parking restriction due to the width.
    - Aerial imagery should be used during this exercise to determine which side of the street should be given precedent for parking. In all cases, the intent should be to maximize available parking.
    - When excluding one side of the roadway from parking, Field Calculate Restrictions = 'Pavement too narrow for

- parking on both sides', Parking\_Count = 0, and Parking\_Count\_Integer = 0.
- c. If the outline of Pavement\_Buffer\_Dissolve\_13half\_ft and Pavement\_Buffer\_Dissolve\_17half\_ft are both not visible in the center of a roadway, the roadway is less than 17 feet wide and therefore not wide enough for parking on either side of the road. In this scenario, all features from Parking\_Option2 that show available parking (i.e. Restrictions is null) are selected.
- Field Calculate Restrictions = 'Pavement too narrow for parking', Parking\_Count = 0, and Parking\_Count\_Integer = 0.

## Parking Supply – PRD Roadways

Several Planned Residential Development (PRD) projects were included in the parking supply analysis. These projects include Lakewood Heights, Ross Field and Stream PRD, Camden Ridge PRD, Kahlon PRD, Chapel Hill Subdivision, Inspiration Point, Creekside PRD, Redstone at Whiskey Ridge Division II, Roff Morse PRD, Cornelius Lacey PRD, Minor PRD, 44<sup>th</sup> South PRD, 87<sup>th</sup> & 40<sup>th</sup> PRD, Colvin PRD, Williams Pointe, and The Farm PRD.

While the non-PRD areas of the study utilize Ecopia AI and aerial imagery to determine locations of pavement edge, driveways, and other features, PRD projects have not yet started development or are in early stages of development. In most cases, as-builts do not exist. As such, pavement and other assets are digitized from civil plan sets.

### Data Preparation

Documents are retrieved from the City's LaserFiche repository. Typically, the Channelization Plan from the latest Civil Plan submittal will show pavement extent, fire hydrants, signage locations, driveways, and curb ramps. This page – as well as any others that may be needed to determine locations of all necessary features – is georeferenced in ArcGIS Pro. In most cases, matching control points to existing parcel lines adjacent to the PRD projects will result in an accurate georeferenced image.

All data related to PRDs must be created, which differs from the previous existing roadways data preparation portion of the analysis. As such, each feature type should be digitized within a PRD project before moving on to the next PRD project. Once all PRD features from all projects are digitized, the buffers are created.

### PRD Pavement Edge

Data Source: Parking Study PRDs.gdb\PRD\_Pavement\_Edge

1. Once the Channelization Plan for a PRD is georeferenced, the pavement is ready to be digitized. Create a new polyline feature class, Parking Study PRDs.gdb\PRD\_Pavement\_Edge.
2. Add new attribute fields to PRD\_Pavement\_Edge:
  - Field Name = Restrictions
    - Alias = “Restrictions”, Data Type = Text, Length = 500
  - Field Name = Comments
    - Alias = “Comments”, Data Type = Text, Length = 500
  - Field Name = Parking\_Count
    - Alias = “Parking Count, Decimal”, Data Type = Double
  - Field Name = Parking\_Count\_Integer
    - Alias = “Parking Count, Integer”, Data Type = Short
3. Using the georeferenced Channelization Plan for each PRD, digitize the pavement edge features. The pavement surface for parking purposes includes everything curb-to-curb and the pavement edge should be digitized to include the gutter. Use a combination of straight lines and curves to best match the pavement edge shown in the Channelization Plan.

## PRD Fire Hydrants

Data Source: Parking Study PRDs.gdb\PRD\_Hydrants

1. Create a new point feature class, Parking Study PRDs.gdb\PRD\_Hydrants.
2. Reference the georeferenced plans to create new point features representing hydrants. Hydrants are snapped to existing pavement edge features. If water mains are shown on the plan, a good place to add a hydrant point is where the hydrant main crosses the pavement edge.

## PRD Signage

Data Source: Parking Study PRDs.gdb\PRD\_Signs

1. Create a new point feature class, Parking Study PRDs.gdb\PRD\_Signs.
  - Field Name = Comments
    - Alias = “Comments”, Data Type = Text, Length = 500
2. Reference the georeferenced plans to create new point features representing signage. Depending on the sign type, location will differ:
  - Stop Signs or Yield Signs
    - i. All stop or yield signs should be snapped to the pavement edge at a location closest to the sign’s true location.
    - ii. In the Comments field, Field Calculate Comments = 'Stop Sign' or Comments = 'Yield Sign'.
  - No Parking Signage
    - i. All no parking signage should be digitized in its true location instead of snapping to the pavement edge.

- ii. In the Comments field, describe the signage symbology and text in detail. For example, Field Calculate Comments = 'No Parking w/ arrow right' or Comments = 'No Parking Fire Lane w/ arrows both directions'. These descriptions will assist during the Option 1 Data Cleanup task.

## PRD Crosswalks

Data Source: Parking Study PRDs.gdb\PRD\_Crosswalks

1. Create a new line feature class, Parking Study PRDs.gdb\PRD\_Crosswalks.
2. Reference the georeferenced plans to create new line features representing crosswalks. Note civil plan sets typically only show curb ramps instead of pavement markings for crosswalks; these curb ramps can be connected between tactile ADA warning pads to digitize crosswalks.

## PRD Driveways

Data Source: Parking Study PRDs.gdb\PRD\_Driveways

1. Create a new line feature class, Parking Study PRDs.gdb\PRD\_Driveways.
2. Reference the georeferenced plans to create new line features representing driveways. Driveways should be drawn where the driveway intersects the pavement and extend across the driveway to the other intersection between the pavement and driveway.
  - b. Note all alleyways and auto courts are drawn as driveways, regardless of whether they are within the public right-of-way. All private roads are also drawn as driveways. In most cases, these are drawn by connecting the points where the tangential curve into the private roadway begins.

## PRD Buffers

Data Sources: Parking Study PRDs.gdb\PRD\_Hydrants\_Buffer\_15ft  
Parking Study PRDs.gdb\PRD\_Stop\_Signs\_Buffer\_30ft  
Parking Study PRDs.gdb\PRD\_Crosswalks\_Buffer  
Parking Study PRDs.gdb\PRD\_Driveways\_Buffer\_5ft

1. Fire Hydrants
  - a. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** PRD\_Hydrants by a **Distance** of 15 US Survey Feet and set **Output Feature Class** to Parking Study PRDs.gdb\PRD\_Hydrants\_Buffer\_15ft. Set the **Method** to **Planar** and **Dissolve Type** to **No Dissolve**.
    - i. The 15-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(ii).
2. Stop & Yield Signs

- a. Using **Select By Attributes** and **Input Rows** PRD\_Signs, create a **New Selection Where Comments is equal to Stop Sign Or Comments is equal to Yield Sign**.
  - b. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** PRD\_Signs by a **Distance** of 30 US Survey Feet and set **Output Feature Class** to Parking Study PRDs.gdb\Stop\_Signs\_PRD\_Buffer\_30ft. Set the **Method** to **Planar** and **Dissolve Type** to **No Dissolve**.
    - i. The 30-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(iv).
  - c. Split each sign buffer perpendicular to PRD\_Pavement\_Edge to only include the approach to the signage; delete the portion of the buffer on the intersection side of the sign. If applicable, split and remove any part of the buffer that reaches the opposite side of the street and intersects PRD\_Pavement\_Edge.
3. Crosswalks
- a. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study PRDs.gdb\PRD\_Crosswalks by a **Distance** of 25 US Survey Feet and set **Output Feature Class** to Parking Study PRDs.gdb\PRD\_Crosswalks\_Buffer. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.
    - i. The 25-foot buffer represents 5 feet on either side of the centerline of the crosswalk, plus a 20-foot buffer to reflect parking restrictions contained in RCW 46.61.570(1)(b)(iii).
4. Driveways
- a. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study PRDs.gdb\PRD\_Driveways by a **Distance** of 25 US Survey Feet and set **Output Feature Class** to Parking Study PRDs.gdb\PRD\_Driveways\_Buffer\_5ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **No Dissolve**.
    - i. The 5-foot buffer reflects parking restrictions contained in RCW 46.61.570(1)(b)(i).

## Assigning Parking Values to PRD Pavement Lines – Option 1

### Creating Intersection Points

Data Source: Parking Study.gdb\Intersects\_Combined

1. Run **Analysis toolbox – Overlay toolset – Intersect tool**, using each buffer layer along with PRD\_Pavement\_Edge as the **Input Features**. Note only one buffer layer may be run at a time. Using fire hydrant buffers as an example, set the **Output Feature Class** to Parking Study PRDs.gdb/PRD\_Hydrants\_Buffer\_Intersects with **Attributes To Join** set to **Only feature** IDs and **Output Type** set to **Point**.

2. Repeat this process for all other buffer layers until intersect features exist for fire hydrants, stop and yield signs, crosswalks, driveways, and railroads.
3. Using the Data Management toolbox – General toolset – Merge tool, select all buffer intersect feature classes in the Input Datasets dropdowns. Set the **Output Dataset** to Parking Study PRDs.gdb\PRD\_Intersects\_Combined. Set **Field Matching Mode** to the default choice, **Automatically generate fields consolidated from all inputs**.

## Splitting Pavement Lines

Data Source: Parking Study PRDs.gdb\PRD\_Parking\_Option1

1. Launch **Data Management toolbox – Features toolset – Split Line At Point tool**. Set **Input Features** to Parking Study.gdb\PRD\_Pavement\_Edge, **Point Features** to Parking Study.gdb\PRD\_Intersects\_Combined, **Output Feature Class** to Parking Study PRDs.gdb\PRD\_Parking\_Option1, and **Search Radius** to 1 US Survey Feet.

## Data Display

It is helpful to change symbology for PRD\_Parking\_Option1 to display parking supply. Set **Primary symbology** to **Graduated Colors** using the **Field, Parking\_Count\_Decimal**. Set **Normalization** to **<None>**, **Method** to **Manual Interval**, **Classes** to **3**, and **Color scheme** to the green to red gradient “Multipart Color Scheme”. Set the classes with **Upper values** equal to 0, 1, and 100. If necessary, flip the color ramp so the red line is the class set to the Upper value of 0.

- With this symbology, red indicates locations where parking is restricted. Yellow indicates locations where parking is allowed, but there is not enough room for parallel parking. Green indicates locations where parking is allowed and there is enough room for at least one vehicle to parallel park.

## Data Cleanup

Manually sweep through the entire study area, ensuring line segments make sense in relation to all buffer layers. While reviewing each segment, also check for:

1. No Parking Signage
  - a. Using Parking Study PRDs.gdb\PRD\_Signs, review all signage to determine if PRD\_Parking\_Option1 should be revised. Note it is helpful to label the Comments field for display when reviewing signage.
  - b. If signage prohibits parking, select affected segments and Field Calculate **Restrictions = 'No Parking Signage'**, **Parking\_Count = 0**, and **Parking\_Count\_Integer = 0**. If necessary, first split features to capture a more accurate location for the affected area.
    - i. This reflects parking restrictions contained in RCW 46.61.570(1)(b)(ii).
2. Intersections
  - a. If any features within PRD\_Parking\_Option1 reflect parking allowed at an intersection between two or more public roadways, these segments should

be edited. Field Calculate Restrictions = 'Intersection', Parking Count = 0, and Parking\_Count\_Integer = 0.

i. This reflects parking restrictions contained in RCW 46.61.570(1)(a)(iii).

### 3. Designated Parking Stalls

- a. If parking is delineated by on-street parking with marked angled or parallel parking stalls, features within PRD\_Parking\_Option1 are split to reflect the extent of the marked parking. For angled parking, Field Calculate Comments = 'Parking count determined by marked parking stalls instead of Shape\_Length calculation' and Field Calculate the number of marked parking spots in Parking\_Count and Parking\_Count\_Integer fields.

### 4. Geometry Cleanup

- a. Using **Select By Attributes** and **Input Rows** PRD\_Parking\_Option1, create a **New Selection Where Restrictions is null And Comments is null**.
  - i. In the Edit tab,, select the **Merge tool** and merge features.
  - ii. In the Edit tab, select the **Explode tool** to explode features.
  - iii. With the selection still active, Field Calculate Parking\_Count = !Shape\_Length!/20 and Parking\_Count\_Integer = int(!Parking\_Count!).

## Assigning Parking Values to PRD Pavement Lines – Option 2

### Creating Pavement Width Buffers

1. Create a copy of PRD\_Parking\_Option1 by exporting to Parking Study PRDs.gdb\PRD\_Parking\_Option2.
2. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study PRDs.gdb\PRD\_Parking\_Option2 by a **Distance** of 13.5 US Survey Feet and set **Output Feature Class** to Parking Study PRDs.gdb\PRD\_Pavement\_BufferDissolve\_13half\_ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **Dissolve all output features into a single feature**.
3. Using **Analysis toolbox – Proximity toolset – Buffer tool**, buffer **Input Features** Parking Study PRDs.gdb\PRD\_Parking\_Option2 by a **Distance** of 17.5 US Survey Feet and set **Output Feature Class** to Parking Study.gdb\Pavement\_BufferDissolve\_17half\_ft. Set the **Side Type** to **Full**, **End Type** to **Round**, **Method** to **Planar**, and **Dissolve Type** to **Dissolve all output features into a single feature**.

### Determining Parking Supply Using Buffers

1. Symbolize both polygon buffer layers without a fill and with distinct outline colors that are easy to differentiate from one another.
2. Manually review the entire study area, paying close attention to the buffer layers.
  - a. If the outline of PRD\_Pavement\_BufferDissolve\_17half\_ft is visible in the center of a roadway, the roadway is at least 35 feet wide and therefore wide

enough for parking on both sides of the road. In this scenario, all assumptions from Option 1 can be retained and no further editing of parking segments needs to occur.

- Note the actual pavement width requirement for parking on both sides of the road is 36 feet, as determined by the City of Marysville Engineering Department’s Traffic Engineering Division. This has been reduced to 35 feet to account for location inaccuracies introduced during georeferencing and pavement digitizing.
- b. If the outline of PRD\_Pavement\_Buffer\_Dissolve\_13half\_ft is visible in the center of a roadway and the outline of PRD\_Pavement\_Buffer\_Dissolve\_17half\_ft is not visible, the roadway is between 17 feet and 35 feet wide and therefore wide enough for parking on one side of the road only. In this scenario, if parking features show available parking on both sides of the street, one side must be edited to show the parking restriction due to the width.
- When choosing between one side of the roadway or another, the intent should be to maximize available parking.
  - When excluding one side of the roadway from parking, Field Calculate Restrictions = 'Pavement too narrow for parking on both sides', Parking\_Count = 0, and Parking\_Count\_Integer = 0.
- c. If the outline of PRD\_Pavement\_Buffer\_Dissolve\_13half\_ft and PRD\_Pavement\_Buffer\_Dissolve\_17half\_ft are both not visible in the center of a roadway, the roadway is less than 17 feet wide and therefore not wide enough for parking on either side of the road. In this scenario, all features from PRD\_Parking\_Option2 representing available parking (i.e. Restrictions is null) are selected.
- Field Calculate Restrictions = 'Pavement too narrow for parking', Parking\_Count = 0, and Parking\_Count\_Integer = 0.

## Results of Parking Supply Analysis

The Explore Statistics function was used within the ArcGIS Pro table view to determine the sum of the Parking\_Count\_Integer field from Parking\_Option1, Parking\_Option2, PRD\_Parking\_Option1, and PRD\_Parking\_Option2 feature classes.

	<i>Centerline Miles</i>	<i>Option 1 Supply</i>	<i>Option 2 Supply</i>
<i>Contemporary Roadways</i>	53.67 miles	10,725	4,608
<i>PRD Roadways</i>	10.83 miles	1,248	1,006

# Parking Demand Assessment

## Data Preparation

### Roadway Centerlines

1. Create a new line feature class, Parking Study.gdb\Parking\_Study\_Centerlines.
2. Add new attribute fields to Parking\_Study\_Centerlines:
  - Field Name = Category
    - Alias = “Category”, Data Type = Text, Length = 255
  - Field Name = Review\_Status
    - Alias = “Review Status”, Data Type = Text, Length = 255
  - Field Name = Parking\_Demand\_080125
    - Alias = “Parking Demand (08/01/25)”, Data Type = Short
  - Field Name = Image\_080125
    - Alias = “Image Name (Aug 1<sup>st</sup>)”, Data Type = Text, Length = 100
  - Field Name = Parking\_Demand\_080525
    - Alias = “Parking Demand (08/05/25)”, Data Type = Short
  - Field name = Image\_080525
    - Alias = “Image Name (Aug 5<sup>th</sup>)”, Data Type = Text, Length = 100
3. Select features from Transportation.sde\DBO.FacilitiesStreets\DBO.Street that correspond to existing roadways within the study area. Once all segments are selected, Copy features in the Map View and Paste Special into Parking\_Study\_Centerlines.
  - a. In the Category field, Field Calculate Category = Contemporary Roadway' for all features.
4. Select features from Assessor.sde\DBO.New\_Addresssing\DBO.Addresssing\_New\_Streets that correspond to PRD roadways within the study area. Once all segments are selected, Copy features in the Map View and Paste Special into Parking\_Study\_Centerlines.
  - a. Using **Select By Attributes** and **Input Rows** Parking\_Study\_Centerlines, create a **New Selection Where Category is null**. In the Category field, Field Calculate Category = 'PRD Roadway'.
5. Using **Select By Location** and **Input Features** Parking\_Study\_Centerlines, select features with **Relationship Within a distance** of 800 US Survey Feet in **Selecting Features** Transportation.sde\DBO.FacilitiesStreets\DBO.Street. Set **Selection Type** to **New selection**.
  - a. Copy features in the Map View and Paste Special into Parking\_Study\_Centerlines.
  - b. Using **Select By Attributes** and **Input Rows** Parking\_Study\_Centerlines, create a **New Selection Where Category is null**. In the Category field, Field Calculate Category = 'Buffer Zone Demand'.
6. Manually review Parking\_Study\_Centerlines.

- a. Delete all driveways, private streets, and auto courts.
- b. PRD Roadways and Contemporary Roadways will need to be reviewed. In many cases, Contemporary Roadways should be reclassified as PRD Roadways based on development criteria. Community Development staff will determine which roadways should be reclassified.
- c. Merge centerlines to “digestible” segments that can be easily identified in aerial imagery (i.e. at intersections rather than turns). Because multiple roads may have been combined, road names are omitted.
- d. Because the 800-foot buffer represents “walking to nearby on-street parking spaces”, delete any segments that were included by the 800-foot “as the crow flies” buffer that are clearly beyond 800 feet using walking as a transportation mode.

Note Parking\_Study\_Centerlines was created during the parking supply analysis. The Review\_Status field was used to track progress when conducting manual reviews within the study area. Once each review was complete, the Review\_Status field was returned to null values.

## Assigning Parking Demand Values to Marysville Streets

1. Review each feature within Parking\_Study\_Centerlines and locate the feature within the associated image file. Within the image file, count all motor vehicles parked in the right-of-way within the extent of the GIS centerline feature.
  - a. Any vehicles parked within driveways are not counted.
  - b. Any vehicles that appear to be driving are not counted.
  - c. Only vehicles that are clearly in view are counted.
2. Populate Parking\_Demand\_080125 with the number of vehicles visible in the corresponding August 1<sup>st</sup> image. In the Image\_080125 field, populate with the image file name (example “077.tif”).
3. Populate Parking\_Demand\_080525 with the number of vehicles visible in the corresponding August 5<sup>th</sup> image. In the Image\_080525 field, populate with the image file name (example “024.tif”).
4. Once both August 1<sup>st</sup> fields and both August 5<sup>th</sup> fields are populated, populate Review\_Status to denote the feature is “Complete”.

# Results of Parking Demand Assessment

The Explore Statistics function was used within the ArcGIS Pro table view to determine the sum of the Parking\_Demand\_080125 and Parking\_Demand\_080525 fields from Parking\_Study\_Centerlines feature class.

	<i>Centerline Miles</i>	<i>8/1/2025 Demand</i>	<i>8/5/2025 Demand</i>
<i>Contemporary Roadways</i>	53.67 miles	1,814	1,756
<i>PRD Roadways</i>	10.83 miles	259	222
<i>Buffer Zone Demand</i>	65.85 miles	2,914	2,836

## Appendix B: 2024 Transportation Element Maps



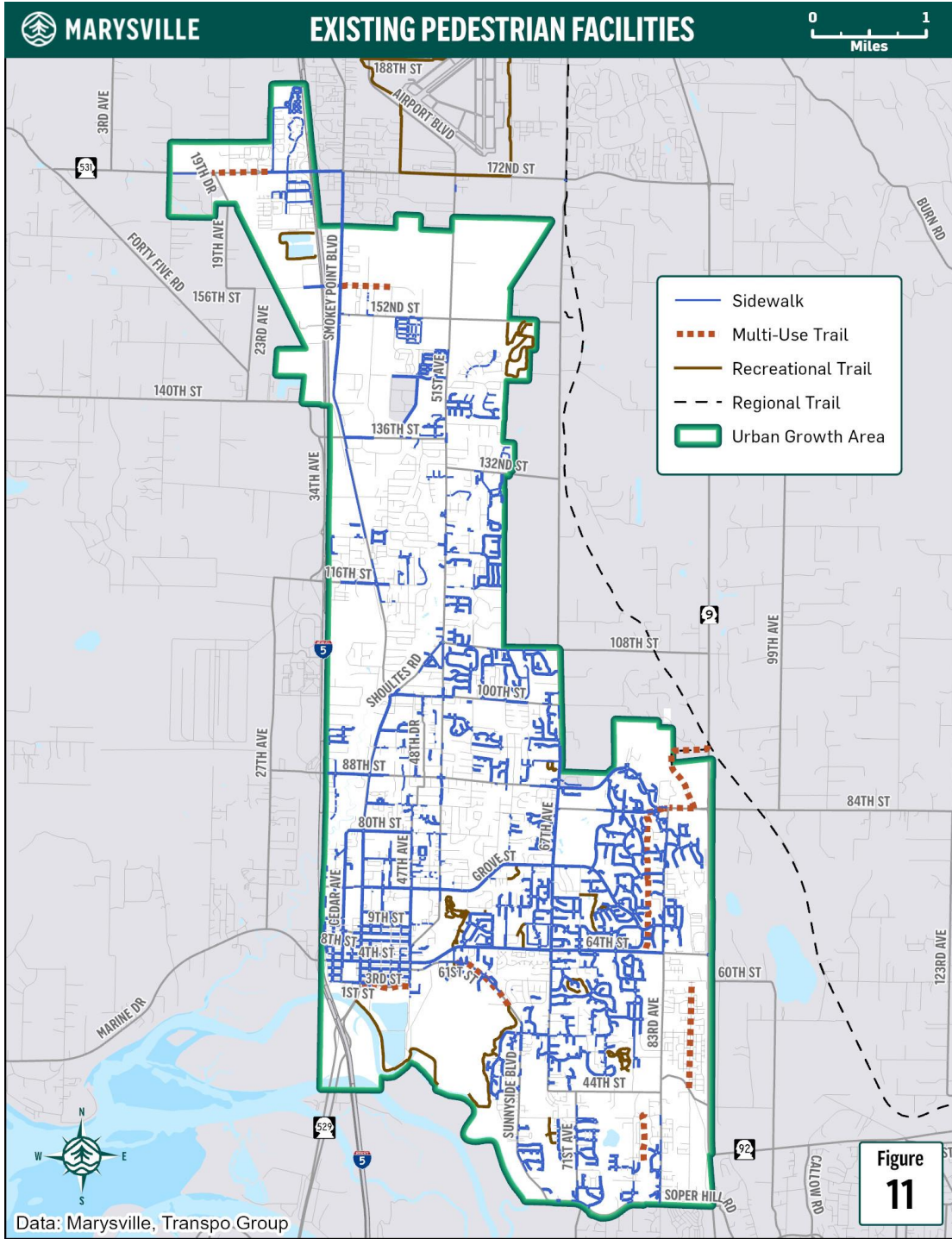


Figure 11. Existing Pedestrian Facilities

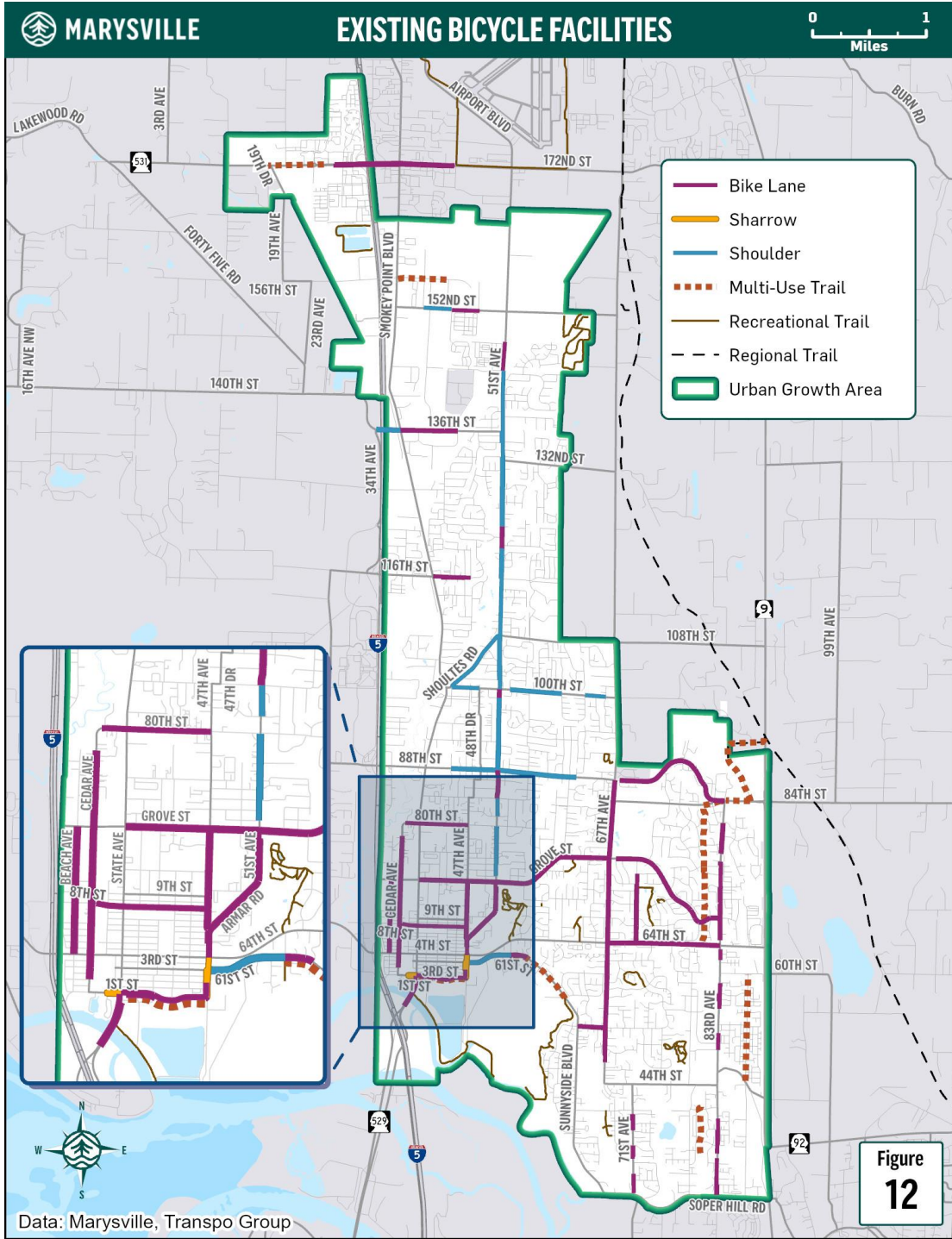


Figure 12. Existing Bicycle Facilities

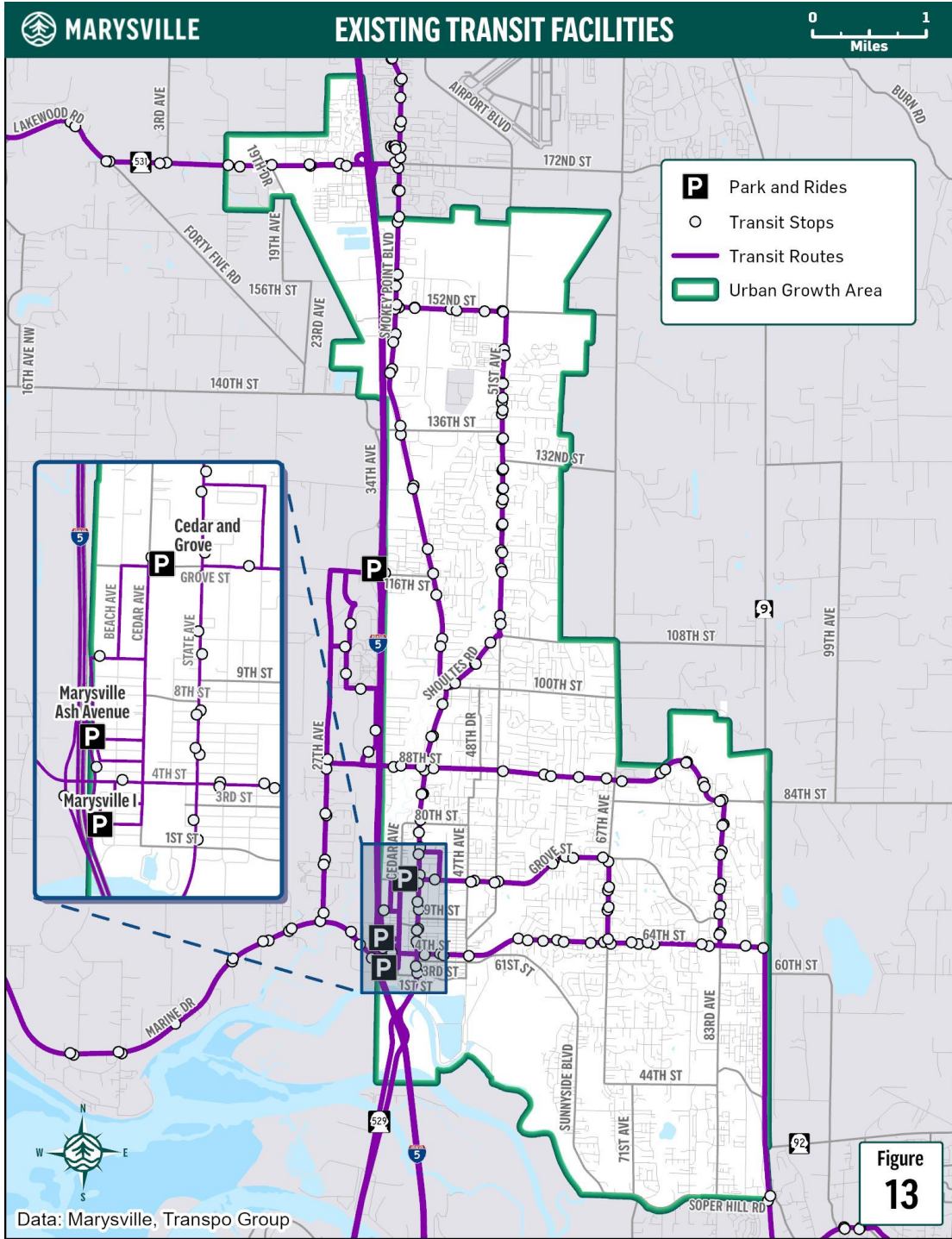


Figure 13. Existing Transit Facilities

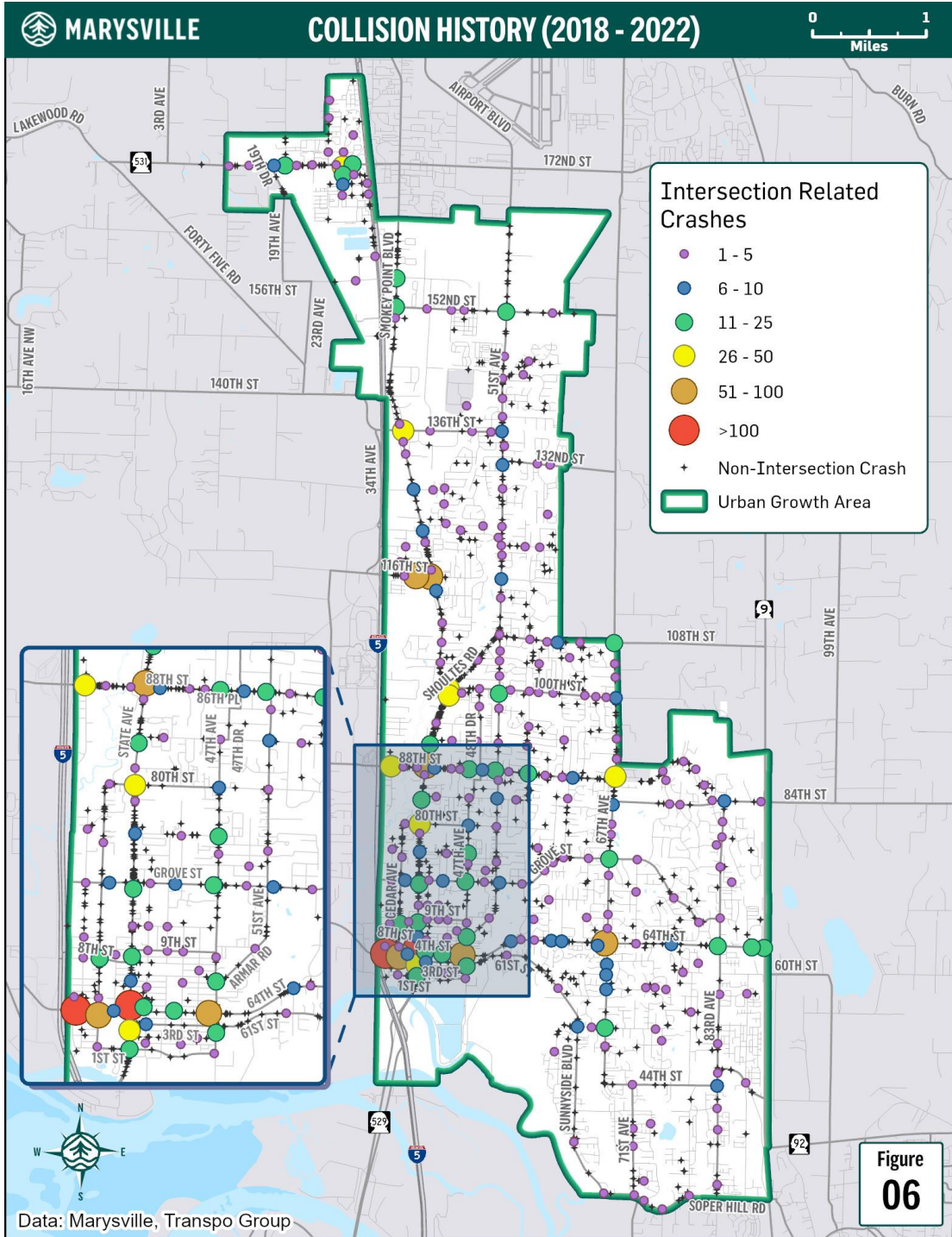


Figure 6. Collision History (2018 – 2022)

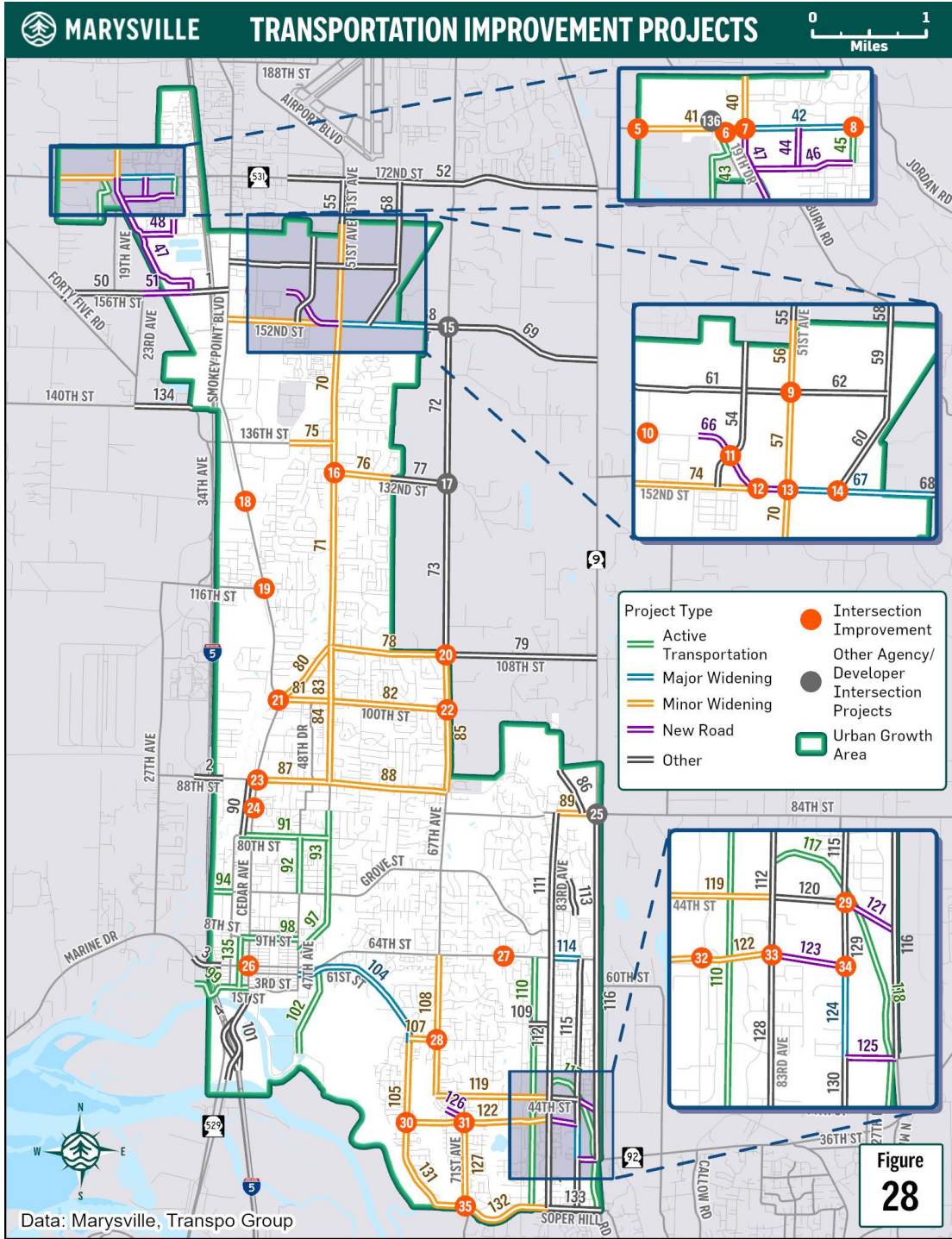


Figure 28. Transportation Improvement Projects