

# TRANSPORTATION CURRENT CONDITIONS REPORT

GRAND MOUND URBAN GROWTH AREA

NOVEMBER 2018





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FIG 1: The Great Wolf Lodge, which includes a hotel and indoor water park, opened in 2009 on Old Highway 99 and helped catalyze the current construction boom in Grand Mound. A hotel, restaurants, and other commercial businesses have opened during the past decade near the intersection of Old Highway 99 and US 12.

# 1 OVERVIEW

The Grand Mound Urban Growth Area (UGA) sits about 15 miles southwest of Olympia, near the border of Thurston and Lewis counties. The unincorporated community of about 1,300 residents is attracting significant commercial development due to a prime location at the nexus of US Route 12, Interstate-5, and Old Highway 99. A towering waterpark, hotels and restaurants have risen from the rolling prairie over the past decade. More development is on the horizon, so the time is right to take stock of the area's current conditions and future opportunities.

Thurston County is updating its Grand Mound Subarea Plan, a 1996 document that set a vision and objectives to guide development in the 975-acre UGA. The Thurston County Comprehensive Plan — the jurisdiction's chief planning document — allows for the preparation of such subarea plans for places where more detailed transportation and land use policies are needed to address unique needs.

This Transportation Current Conditions Report, produced by the Thurston Regional Planning Council (TRPC) for Thurston County, assesses the Grand Mound UGA's:

- Planning foundation/background (Section 2)
- Recent community engagement (Section 3)
- Regulatory framework, including zoning and transportation standards (Section 4)
- Existing safety, congestion, and maintenance issues (Section 5)

Using the current conditions report and eliciting additional input from community members and consultants, Thurston County and

TRPC will develop and prioritize a list of transportation investments and regulatory changes for the updated Grand Mound Subarea Plan. This work — slated to begin in late 2018 and conclude in late 2019 — coincides with Thurston County's update of the 1996 Rochester Subarea Plan, which covers a broader 9,500-acre area [Figure 2] bounded on the east by Old Highway 99 and I-5, on the west by the unincorporated community of Rochester and Littlerock Road, on the north by Scatter Creek, and on the south by James Road and the Chehalis River floodplain.

For more information about the subarea plan updates, visit [www.grandmoundplanning.org](http://www.grandmoundplanning.org).

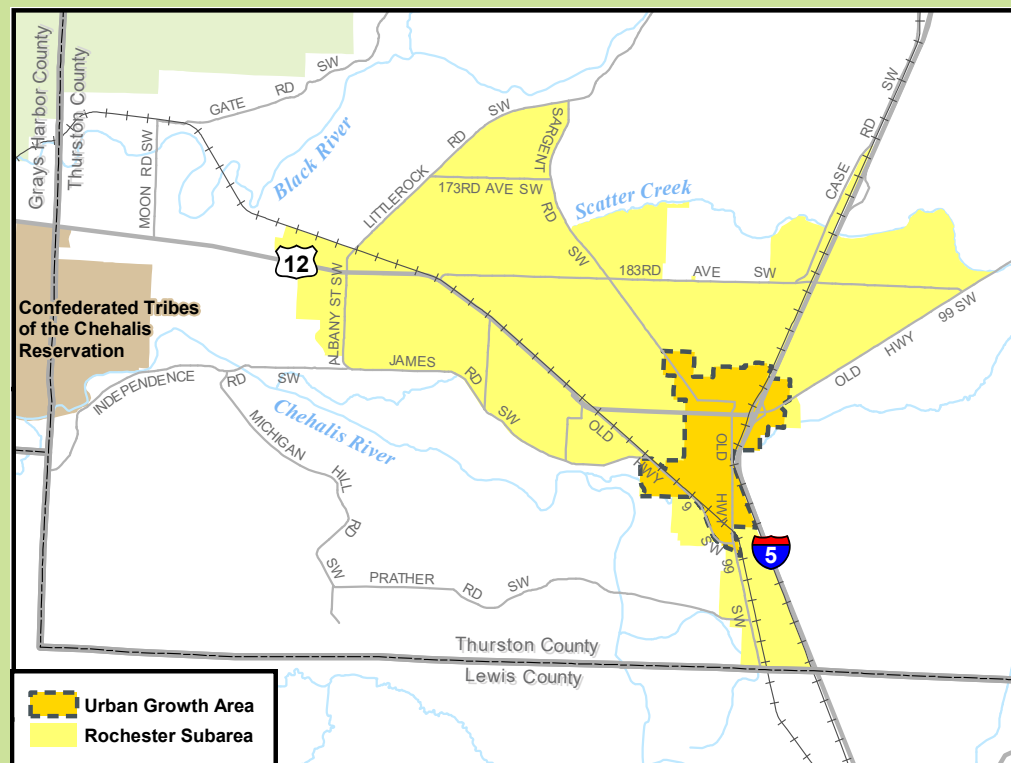


FIG 2: This map shows the Grand Mound Urban Growth Area within the Rochester Subarea of southwestern Thurston County.

# 2 BACKGROUND

The documents summarized in this section provide the framework for recent, planned, and proposed investments in roads, sidewalks, bike lanes, and other infrastructure that knit together Grand Mound’s commercial, industrial, and residential areas.

## Grand Mound Subarea Plan (1996)

[www.co.thurston.wa.us/planning/grand\\_mound/grand-mound-home.htm](http://www.co.thurston.wa.us/planning/grand_mound/grand-mound-home.htm)

The Washington Growth Management Act, adopted in 1990, requires Thurston County and other fast-growing municipalities to develop a comprehensive plan to manage population growth (MRSC, 2018). Counties must identify Urban Growth Areas where “urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature,” according to the state law (RCW 36.70A.110).

Thurston County adopted a Grand Mound UGA in 1995 and subsequently codified its transportation and land-use provisions in the 1996 Grand Mound Subarea Plan, which replaced the 1978 Rochester Subarea Plan for lands within the Grand Mound UGA (Thurston County, 1996). The 1996 plan [Figure 3] presented a vision and planning objectives to guide future development in the UGA.

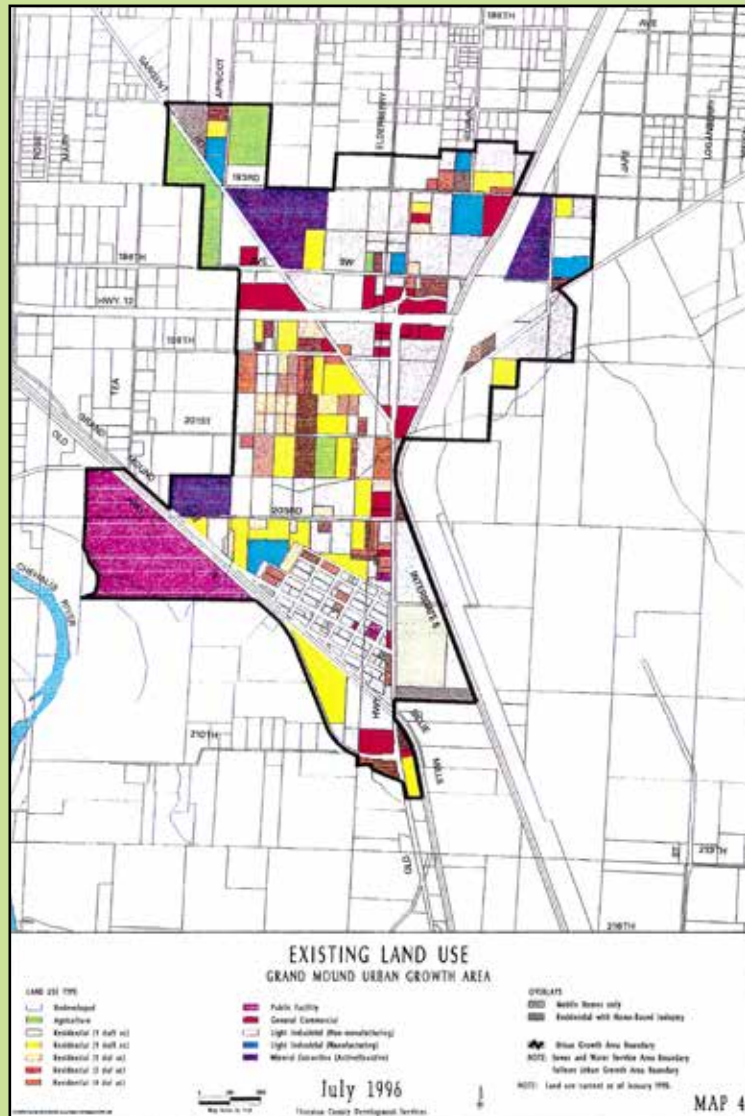


FIG 3: This land use map is from the 1996 Grand Mound Subarea Plan.

The 1996 Grand Mound Subarea Plan's transportation-related objectives included:

- Grand Mound will continue to evolve into a commercial trade center, providing a variety of retail and service uses for community members in the general region and the traveling public. Commercial uses [Figure 4] should be located where there is high visibility from major roadways and where good access can be provided for both local and regional traffic.
- Light manufacturing and storage/warehouse uses will continue to develop within Grand Mound. Industrial uses should be located where they can take maximum advantage of rail and freeway access to minimize impacts on traffic flow in the community.

- Residential areas of the community will continue to infill with a variety of housing types and should maintain a low-density character. People working in local jobs should be able to afford to live within the community. Residential areas should be protected from the impacts of commercial and industrial uses and should have good pedestrian access to transit stops, bike routes, and shopping areas.
- A safe, smooth-flowing road system needs to be maintained within the community as future development occurs. Public transit systems should continue to be monitored to ensure that adequate service is provided.



FIG 4: Construction crews built new commercial businesses during summer 2018 near the northwest corner of the US 12 and Elderberry Road/Old Highway 99 intersection, which has become the commercial core of Grand Mound. Such development, which is visible and accessible from I-5, is consistent with the 1996 Grand Mound Subarea Plan's objectives.



FIG 5: In Grand Mound, three schools are within a mile of US 12: Rochester High School, Grand Mound Elementary School, and Rochester Primary School [pictured].

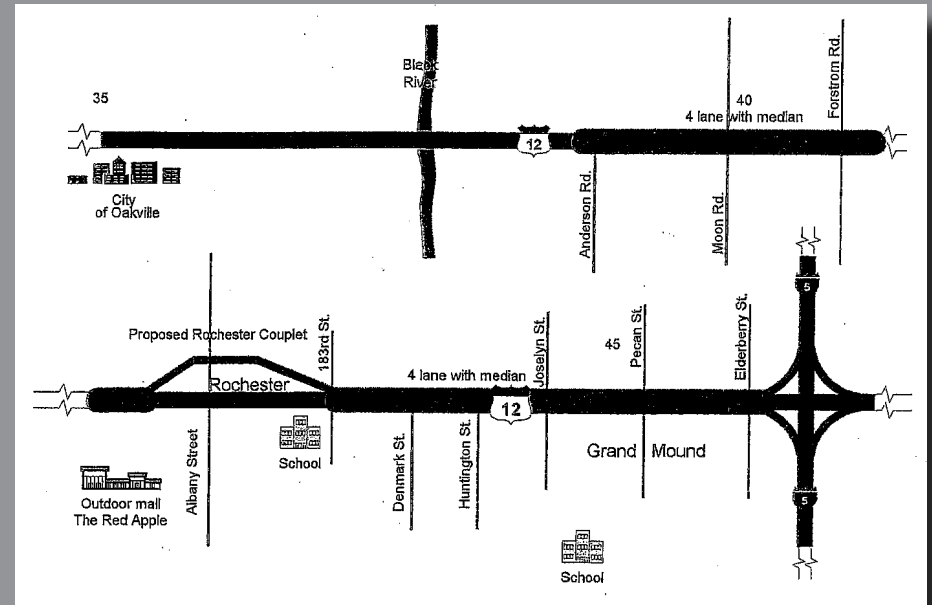


FIG 6: A corridor sketch from the 1999 Route Development Plan for US 12 envisioned the roadway as four lanes and a median between Grand Mound and Rochester.

## Route Development Plan for US 12 (1999)

[www.trpc.org/877/Current-Conditions-Report](http://www.trpc.org/877/Current-Conditions-Report)

This 1999 Washington State Department of Transportation (WSDOT) study outlined a vision and strategies for the future development of US 12, from Aberdeen to I-5. The plan noted that several sections of US 12 are within a mile of a school [Figure 5] and recommended that future projects should include coordination with local school districts for possible construction of student walking facilities and to minimize impact to school facilities (WSDOT, 1999). As part of the current effort

to update the Grand Mound Subarea Plan, Thurston County asked students about their transportation habits and vision for the area. Most students noted that they ride in a vehicle to school, while other students walk.

The Route Development Plan for US 12 recommended establishing a four-lane highway from Anderson Road (Grays Harbor/Thurston County line) to Grand Mound [Figure 6]. WSDOT no longer considers the 1999 Plan — almost 20 years old — as the vision for improving travel on the US 12 corridor.

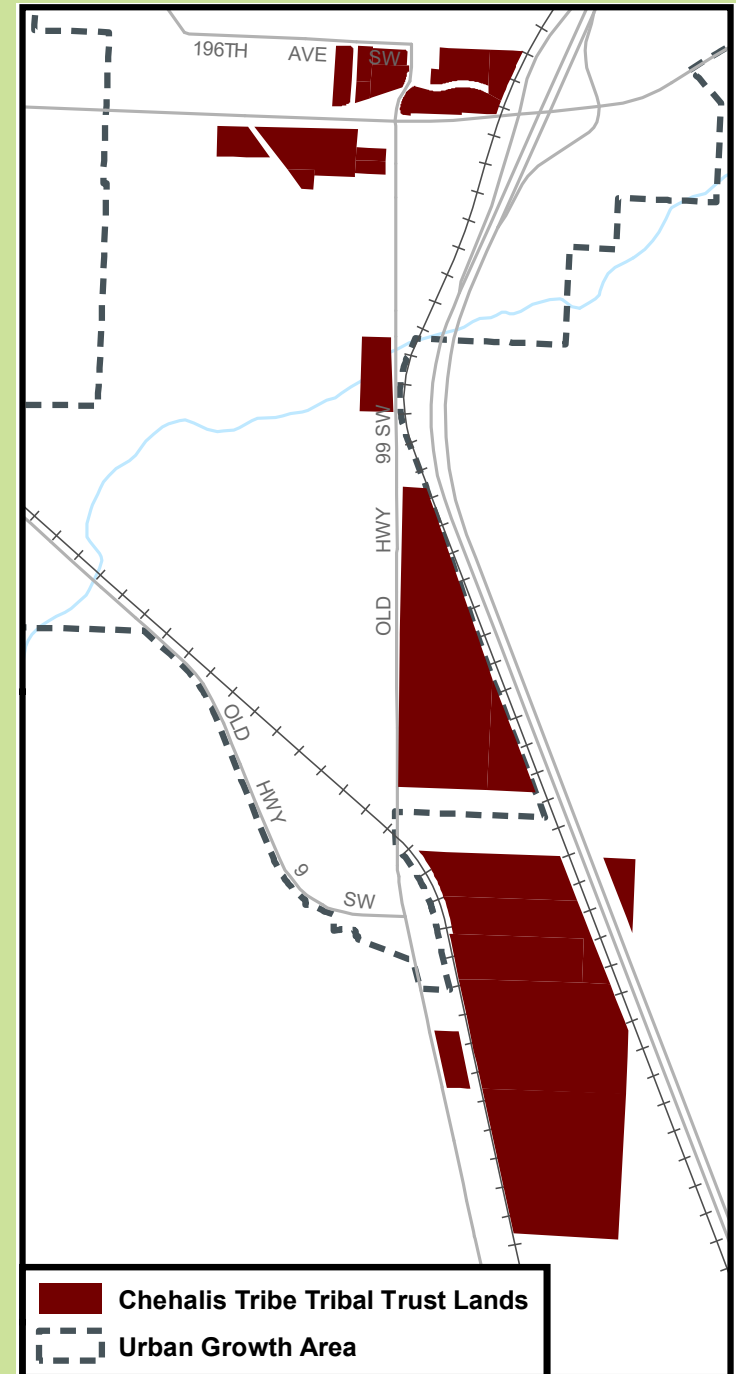
## Grand Mound Development Plan (2009)

[www.co.thurston.wa.us/planning/grand\\_mound/grand-mound-resources.htm](http://www.co.thurston.wa.us/planning/grand_mound/grand-mound-resources.htm)

The Confederated Tribes of the Chehalis Reservation initiated this 2009 plan at the request of Thurston County to establish a vision and planning objectives for Grand Mound's future development. The vision and objectives, developed through a public-engagement process, included:

- Grand Mound will continue to evolve into a commercial trade center, providing a variety of retail and service uses for community members in the general region and the traveling public (Chehalis Tribe, 2009).
- Commercial centers should be developed rather than narrow strip development in order to protect the quality of the community and to improve traffic safety and flow.
- Residential areas of the community will continue to infill with a variety of housing types and should maintain a low-density character.
- Residential densities should be set at a level that will feasibly support sewer and water facilities, will preserve the open space character of the area, and will be compatible with adjacent low-density uses outside of the UGA.

FIG 7: The Chehalis Tribe owns several properties along Grand Mound's main roadways, including lands held in trust status by the U.S. government for the benefit of the Tribe. Several of these properties, north of US 12, are under development currently.



The plan's public process yielded two clear themes:

- 1) The community largely supported growth in Grand Mound, but future development should occur in a coordinated fashion;
- 2) The views of Chehalis Tribe members and the surrounding community were very similar regarding what kind of development they would like to see and not see.

The Chehalis Tribe owns several properties along Grand Mound's main roadways [Figure 7] — including lands held in trust status by the U.S. government for the benefit of the Tribe. The Tribe is planning or developing commercial buildings on several of these sites near the intersection of US 12 and Old Highway 99/Elderberry Street SW.

Many of Grand Mound's streets were designed decades ago for rural traffic, without sidewalks or street trees (Chehalis Tribe, 2009). As the area has grown more urban, transportation challenges have emerged.

The following is a list of transportation challenges in 2009. Some of the challenges have since been addressed (e.g., vehicle access management on Old Highway 99), while others are still apparent today:

- Congestion occurred regularly at the I-5 interchange and the intersection of US 12 and Old Highway 99 during peak morning and evening commute periods.
- A lack of vehicle access control on Old Highway 99 contributed to congestion. US 12, rather, had very limited vehicle access. To remedy these issues, the plan recommended building a median to limit left turns on Old Highway 99 and building a new intersection at the highway and US 12.
- Grand Mound was served by limited by public transit.
- Grand Mound's arterial roads — SR 12, Old Highway 99 and Highway 9 — lacked connected pedestrian and bicycle pathways.

The plan concluded with a conceptual land use diagram [Figure 8] and policy recommendations consistent with its vision and objectives. The conceptual land use diagram recommended that the land near the Great Wolf Lodge be developed with entertainment and recreation uses that serve local community members and tourists, while the land near the US 12 and Old Highway 99 intersection be developed with a retail village and highway commercial businesses. This concept is becoming a reality today.

To alleviate development-related traffic congestion and support opportunities for walking, biking and accessing public transit, the 2009 plan proposed improvements to the area's network of local streets and major intersections:

- Build a new intersection on US 12, midway between Old Highway 99 and Pecan Street, in approximate alignment with Tea Street. The intersection would provide access to commercial uses north of US 12 and residential and mixed-uses south of US 12.
- Build access controls on Old Highway 99 to reduce congestion. The plan noted that, at the time, Thurston County plans and road standards required the expansion of Old Highway 99 to five lanes (two northbound, two southbound, one center turn lane) with bike lanes and sidewalks.
- Improve the intersection at Old Highway 99 and US 12 to reduce congestion.
- Build a new intersection at Sargent Road and Old Highway 99. The conceptual land use diagram also showed a new access road (now built) between US 12 and 198th Avenue within the retail village area.
- Build a roundabout at the intersection of Sargent Road and 198th Avenue SW and 197th Avenue SW. The plan noted that the three roads at the intersection did not align.


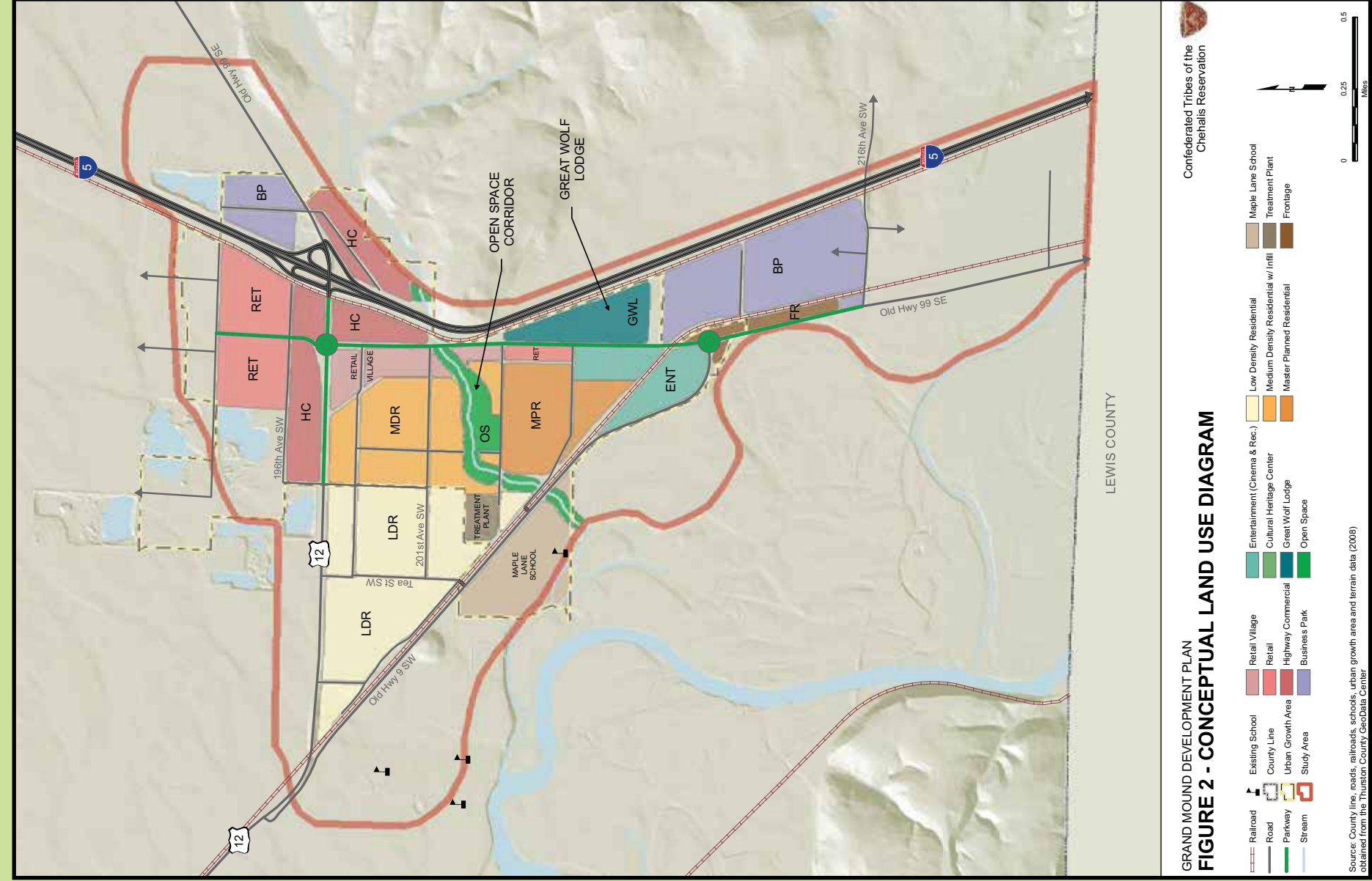


FIG 8: The map at right shows a conceptual land use diagram from the 2009 Grand Mound Development Plan.



GRAND MOUND DEVELOPMENT PLAN  
**FIGURE 2 - CONCEPTUAL LAND USE DIAGRAM**  
 Confederated Tribes of the Chehalis Reservation  
 LEWIS COUNTY  
 Source: County line, roads, railroads, schools, urban growth area and terrain data (2008) obtained from the Thurston County GeoData Center

## Intersection Control Alternatives Analysis for 198th Ave. & Old Hwy. 99 (2017)

In July 2017, SCJ Alliance, a Lacey-based consulting firm, wrote a technical memorandum to Thurston County engineers that assessed three traffic-control alternatives for the intersection of 198th Avenue SW and Old Highway 99:

- Keep the existing stop sign control for east-west approaches, with free-flow conditions for north-south traffic on Old Highway 99.
- Build a new traffic signal.
- Build a new roundabout.

SCJ concluded that the roundabout [Figure 9] would outperform the traffic signal in terms of operation and safety (SCJ, 2017). The “Modern Roundabout” design included two circulating lanes southbound and one circulating lane northbound, eastbound and westbound.

The roundabout would cost about \$940,000 to design and build and would have an inscribed diameter (the distance from outside curb to outside curb) of about 120-125 feet, according to the memorandum.

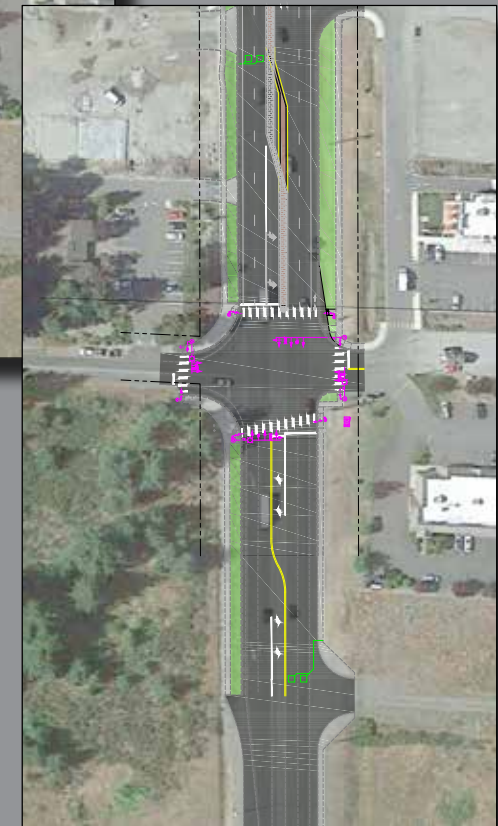


FIG 9: The intersection diagrams, developed by SCJ Alliance, show a roundabout [left] and traffic signal [below] at the busy intersection of 198th Avenue and Old Highway 99.

## WSDOT Corridor Sketch Initiative — US 12 (2018)

[www.wsdot.wa.gov/planning/corridor-sketch-initiative](http://www.wsdot.wa.gov/planning/corridor-sketch-initiative)

In 2016, the Washington State Department of Transportation (WSDOT) began assessing performance gaps and developing strategies to address them on US 12 and about 300 other “corridor” highways across the state. In early 2018, WSDOT published what it called a “corridor sketch” for a 25-mile-long stretch of US 12, between the State Route 8 junction in Elma and the I-5 junction in Grand Mound. Most of US 12 is an undivided, two-lane highway, but it increases to four lanes at the I-5 junction in Grand Mound.

The sketch noted that the corridor is used by freight, recreation, tourist, and farm-to-market traffic as it connects I-5 with the Pacific Coast (WSDOT, 2018). Significant traffic generators along the corridor include schools, as well as leisure destinations such as the Great Wolf Lodge and Lucky Eagle Casino. In assessing the corridor’s physical and operating conditions, WSDOT noted what is working well and what needs to change.

### What’s working well:

- Approximately 97% of surveyed pavements on the corridor are in fair or better condition.
- More than 99% of the corridor does not experience congestion on a regular basis.
- There are no chronic environmental deficiencies on the corridor.
- Fixed-route transit and paratransit services are available throughout the corridor’s length.

### What needs to change:

- Traffic near I-5 is congested, regularly operating at or below 70% of the posted speed limit (40 mph).
- There are bridge preservation and seismic retrofit needs on the corridor.
- Most of the corridor has a high climate change vulnerability rating due to rock slides and bridge scouring.
- There are fish passage barriers present on the corridor.

WSDOT engaged the Chehalis Tribe, Thurston County, and other stakeholders as it developed its sketch. The sketch summarized some of the stakeholder feedback (WSDOT, 2018):

- There is interest in adding Americans with Disabilities Act (ADA) ramps to the sidewalks along Thurston County's section of the corridor.
- There are concerns about recurrent flooding at multiple points as such flooding renders the highway unusable and completely restricts access to the Chehalis Tribe's reservation, west of Grand Mound.
- There is interest in exploring ways to increase efficiency and frequency of existing fixed-route transit services.
- There are concerns about access-management issues for tourist and freight traffic entering and leaving the highway.
- There is interest in building a shared-use trail on the Chehalis Tribe's reservation that would cross the corridor at the Anderson Road intersection, east of the Grand Mound UGA.
- There is interest in implementing more speed controls throughout the corridor.
- There is interest in studying adding more lanes to reduce congestion along the corridor.
- There is interest in studying expanding the Sounder commuter rail into Thurston County.



WSDOT noted that the easternmost corridor segment, from Old Highway 99 to the I-5 bridge, experiences reduced mainline capacity with congestion occurring for at least one hour eastbound and up to 15 hours westbound. The sketch concluded with the following list of strategies to improve mobility in this core area of Grand Mound:

### **Operational Improvements**

- Improve transit access into the Grand Mound park-and-ride lot to encourage transit use and decrease the number of single-occupancy vehicle trips.

### **Demand Management**

- Expand the park-and-ride lot from 44 to 125 stalls to meet forecast year 2025 demand.
- Provide sidewalk and bike lanes between a future US 12/Sargent Road SW intersection and US 12/Elderberry Street SW.

### **Local Network Improvements**

- Implement Grand Mound Urban Growth Area non-motorized improvements, sidewalk and bike lanes on Elderberry Street SW and Old Highway 99 SW, to encourage active transportation.

### **Policy Change**

- Implement park-and-ride lot strategies to support usage and reduce single-occupancy vehicle trips.

### **Further Study**

- Review recommendations from Thurston County's Grand Mound Transportation Study to identify short-, mid-, and long-term solutions for the county or WSDOT.
- Conduct an economic study in the Grand Mound vicinity.
- Develop solutions to improve intersection efficiency at US 12/Sargent Road SW, US 12/Elderberry Street SW, and nearby 198th Way SW on Old Highway 99 SW.
- Study options to reduce/distribute concentrated traffic demand at the I-5/US 12 West (Grand Mound) Interchange.
- Develop options for North Lewis County Industrial Access near the Thurston/Lewis County Line.
- Look into strategies to reduce congestion.
- Study potential Sounder routes into Thurston County to increase rail passengers.
- Study adding a frontage road to reduce congestion.

## Transportation Improvement Program (2018-2023)

The Transportation Improvement Program (TIP) outlines Thurston County's transportation investments for the 2018-2023 period and updates plans for future transportation projects. The 2018-2023 TIP features descriptions and budget estimates for several projects in the Grand Mound UGA, including:

- **PRIORITY 14: SR 12 Urban Improvements**

**Description:** This project will relieve congestion at the US 12 and Old Highway 99/Elderberry intersection by creating a new US 12 roundabout at Sargent Road. Other project elements include sidewalks, turn lanes, curbs and gutters. **Estimated Cost:** \$7,550,000

- **PRIORITY 17: OLD HIGHWAY 99 CAPACITY PROJECT**

**Description:** This project will widen Old Highway 99 to 4 or 5 lanes, and add sidewalks, bike paths, intersection improvements, and other urban features. The project extent is Old Highway 99, from US 12 to 210th Avenue SW. **Estimated Cost:** \$8,100,000

- **PRIORITY 19: Grand Mound Transportation Study [Figure 10]**

**Description:** This project will assess Grand Mound's future traffic needs. **Estimated Cost:** \$400,000

- **PRIORITY 24: Sargent Road SW Urban Road Upgrade**

**Description:** This project will address increased traffic congestion and pavement deterioration by rehabilitating and widening the roadway. The project also will include urban features such as lighting, sidewalks and bike lanes. **Estimated Cost:** \$1,500,000

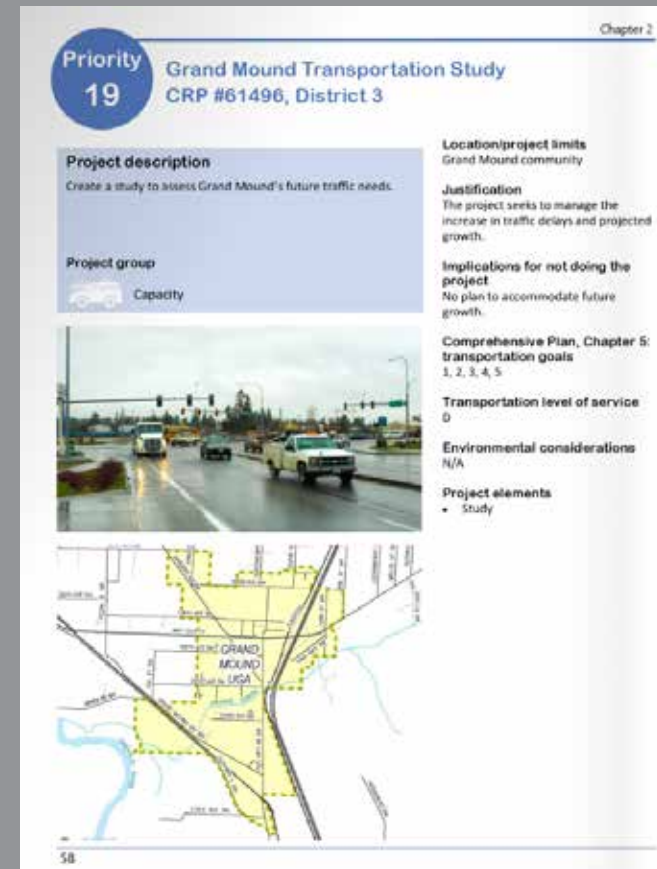


FIG 10: The Transportation Improvement Program (TIP) outlines Thurston County's transportation program for the 2018-2023 period and updates future plans for transportation improvement programs and projects. Several priority actions pertain to Grand Mound.

# 3 COMMUNITY ENGAGEMENT

The updated Grand Mound Subarea Plan will help shape future development and quality of life in this growing area, so it is important for Thurston County and its partners to elicit and incorporate public input as part of the planning process. To this end, Thurston County and TRPC staff facilitated community open houses [Figure 11] in Grand Mound and Rochester during spring 2018 to hear community members' 20-year vision for the two areas.

The following section includes a summary of public input from the open houses, and a summary of responses to a Grand Mound community survey TRPC administered on behalf of Thurston County in early 2018.



FIG 11: More than 100 people attended a community workshop on March 8, 2018, at the new Grand Mound Fairfield Inn & Suites, where Thurston County staff members discussed the subarea planning process and asked attendees for their community vision for the fast-growing area.

## Community Open Houses

[www.arcgis.com/apps/Cascade/index.tml?appid=d521af5fea264eb5b68c482a8c287299](http://www.arcgis.com/apps/Cascade/index.tml?appid=d521af5fea264eb5b68c482a8c287299)

### Transportation

People who attended the open houses envision Grand Mound in 20 years as a community that can accommodate growth while still ensuring safe, smooth-flowing, and well-maintained roads. Community members identified several places within and near the Grand Mound UGA where roadway safety, congestion, and maintenance challenges should be addressed.

For example, several open house attendees noted that vehicle tailgating, and congestion pose roadway safety and access challenges for drivers entering and exiting US 12 from Pecan Street. Drivers face similar challenges along the UGA's main north-south arterial, Old Highway 99, notably at the intersections at Old Highway 9 and 201st Avenue SW. TRPC has published an interactive map ([www.trpc.org/grandmoundmap](http://www.trpc.org/grandmoundmap)) that shows community members' comments for these and other sites in and around Grand Mound.

Several open house attendees also said large truck traffic volumes and speeding on arterials such as US 12 and Old Highway 99 contribute to unsafe conditions for pedestrians and bicyclists. Some attendees said they support installing new roundabouts at intersections, while other attendees said they oppose installing roundabouts.

### Parks, Trails, and Open Space

A common theme that resonated at both open houses was a need for more public parks, open space, and trails. The definition of "public parks" varied from small community parks to more elaborate parks that included sports fields for soccer and baseball. Community comments/suggestions varied from as simple as "parks" to more detailed suggestions, such as "we need parks, ball fields, a pool, and turn gravel pits into lakes for fishing and swimming,"

### Habitat Conservation Plan

Some community members said they are frustrated with County development regulations, permitting processes and fees associated with limitations on property development due to the Mazama Pocket Gopher, which is listed as a Threatened Species by the U.S. Environmental Protection Agency.

### Development

Some community members said they are concerned about the growing number of fast-food restaurants in Grand Mound. They said they would rather see a sit-down restaurant added to their community. Attendees also said they want a larger grocery store or supermarket, other than the Rochester I.G.A., to service the needs of the local community members. Community members also said they want more transparency from the County and the Chehalis Tribe regarding future development in Grand Mound.

### Land Use

Most community members said they appreciate and value the rural atmosphere that currently exists in Rochester. They want to continue to preserve the large-acre lots, rural areas for agriculture use, and maintain low-density development. They prefer to keep Rochester rural and keep development within the Grand Mound UGA. They identify as a small-town, close-knit, family-oriented, rural community.

## Community Survey

In addition to the workshops, TRPC administered a survey of Grand Mound-area community members on behalf of Thurston County during winter/spring 2018. TRPC mailed the survey to 1,645 addresses in mid-February and elicited survey responses online through March. About 0 percent — 156 people — completed the survey, which focused on transportation and placemaking.

The following summarizes responses to questions about transportation maintenance, accessibility, safety, and congestion. The full survey is available at [www.trandmoundplanning.org](http://www.trandmoundplanning.org).

Question 5 asked respondents about their level of concern (e.g., low, medium, high) about roadway congestion and a wide range of transportation issues. To facilitate analyzing the survey results, level of concern is split into columns.

### Q5. How concerned are you about the following transportation issues in Grand Mound?

TRANSPORTATION ISSUE	LEVEL OF CONCERN								TOTAL RESPONSES
	COUNT				PERCENT				
	Low	Med.	High	N/A	Low	Med.	High	N/A	
Congestion	25	38	62	6	19	29	47	5	131
Traffic speed	55	38	41	6	39	27	29	4	140
Sufficient bicycle lanes	66	37	19	13	49	27	14	10	135
Sufficient sidewalks	35	46	50	6	26	34	36	4	137
Roadway maintenance	15	48	69	6	11	35	50	4	138
Business access	31	43	58	5	23	31	42	4	137
Roadway or intersection safety	12	33	91	2	9	24	66	1	138

There are several notable takeaways from Question 5:

- Roadway or intersection safety ranked as the highest relative concern (66 percent) among all transportation issues.
- About 50 percent of respondents ranked roadway maintenance and congestion as issues of high concern, and 42 percent of respondents noted that business access is an issue of high concern.
- About 50 percent of respondents noted that having sufficient bicycle lanes is an issue of low concern; just 14 percent of respondents ranked this as an issue of high concern.
- No clear consensus emerged regarding level of concern about traffic speeds and sidewalks, with similar numbers of respondents (26 to 39 percent) indicating “high” and “low” levels of concern.

Question 6 asked respondents to select places where transportation infrastructure improvements could mitigate congestion, with a list of specific intersections identified by Thurston County Public Works staff members.

**Q6. Congestion in Grand Mound would be reduced most by improving the intersection at: (choose one)**

<b>RESPONSE OPTION</b>	<b>COUNT</b>	<b>% OF TOTAL RESPONSES</b>
US 12 at Old Highway 99/Elderberry Street SW	42	34
US 12 at Sargent Road SW (new intersection)	35	28
Old Highway 99 at 198th Avenue SW	25	20
Old Highway 99 at Sargent Road SW	10	8
Old Highway 99 at Old Highway 9	16	13
Elderberry Street SW at 196th Avenue SW	4	3
Sargent Road SW at 196th Avenue SW	9	7
Total Responding to Question	124	-

Some of the 124 people who answered this question selected more than one response option, so response figures do not add to 100 percent. Three intersections were favorites, selected by 25 or more respondents. The intersections, in order:

- US 12 at Old Highway 99/Elderberry Street SW (42 responses; 34 percent);
- US 12 at Sargent Road SW (35 responses; 28 percent); and,
- Old Highway 99 at 198th Avenue SW (25 responses; 20 percent).

Question 7 asked respondents to select an intersection where roadway safety could be improved by changes to transportation infrastructure. Some of the 115 people who responded to this question selected more than one intersection from the list, so response figures do not add to 100 percent.

**Q7. Safety in Grand Mound would be improved most by improving the intersection or roadway at: (choose one)**

<b>RESPONSE OPTION</b>	<b>COUNT</b>	<b>% OF TOTAL RESPONSES</b>
Old Highway 99 and Ivan Street SW	3	3
US 12 and Pecan Street SW	19	17
Old Highway 99 and 201st. Avenue SW	8	7
US 12 at Old Highway 99/Elderberry Street SW	22	19
US 12 at Sargent Road SW (new intersection)	23	20
Old Highway 99 at 198th Avenue SW	25	22
Old Highway 99 at Sargent Road SW	4	3
Old Highway 99 at Old Highway 9	14	12
Elderberry Street SW at 196th Avenue SW	4	3
Sargent Road SW at 196th Avenue SW	7	6
Total Responding to Question	115	-

Respondents selected the same top three intersections in both Questions 6 and 7:

- Old Highway 99 at 198th Avenue SW (25 responses; 22 percent);
- US 12 at Sargent Road SW (23 responses; 20 percent); and,
- US 12 at Old Highway 99/Elderberry Street SW (22 responses; 19 percent).

Two other intersections were selected by at least 10 respondents:

- US 12 and Pecan Street SW (19 responses; 17 percent); and,
- Old Highway 99 and Old Highway 9 (14 responses; 12 percent).

Question 9 asked respondents to select a transportation infrastructure investment that would most improve safety for pedestrians, bicyclists, and mobility device users in Grand Mound. Some of the 144 people who answered this question selected more than one response option, so response figures do not add up to 100 percent.

**Q9. To improve the area’s safety for pedestrians, bicyclists, and mobility device users, Grand Mound would benefit most from: (choose one)**

<b>RESPONSE OPTION</b>	<b>COUNT</b>	<b>% OF TOTAL RESPONSES</b>
More sidewalks	61	42
Wider sidewalks	5	3
Landscaping or buffer between sidewalk and roadway	18	13
Improved or more lighting	47	33
Improved or more pedestrian crossings	21	15
Walking/biking/mobility device trail separated from the highway and connected to regional trails	47	33
Total Responding to Question	144	-

Building more sidewalks elicited the most responses — 61 (42 percent) — by a wide margin. Generating 47 responses each (33 percent) were better street lighting and a separated multimodal trail (for bicyclists and pedestrians).

## Technical Workgroup

During summer 2018, Thurston County and TRPC assembled a technical workgroup to assess Grand Mound’s transportation challenges and opportunities, and to generate ideas to improve safety, mobility, and sense of place. The ad hoc workgroup — which included representatives from TRPC, Thurston County, WSDOT, and the Chehalis Tribe — convened for a June 28 field tour of Grand Mound.

As workgroup members drove and walked through the UGA, they discussed existing transportation congestion, maintenance, and safety issues — including those noted in the survey and open houses — and discussed potential transportation impacts from new and planned development projects. The field tour focused on three areas [Figure 12]: “North of 12” (the vicinity of 197th Avenue and Edinger Morris Street); “South of 12” (the vicinity of 189th Way and Old Highway 99); and, “Southwest of Sargent” (the low-density residential area west of Sargent Road and east of Old Highway 99).

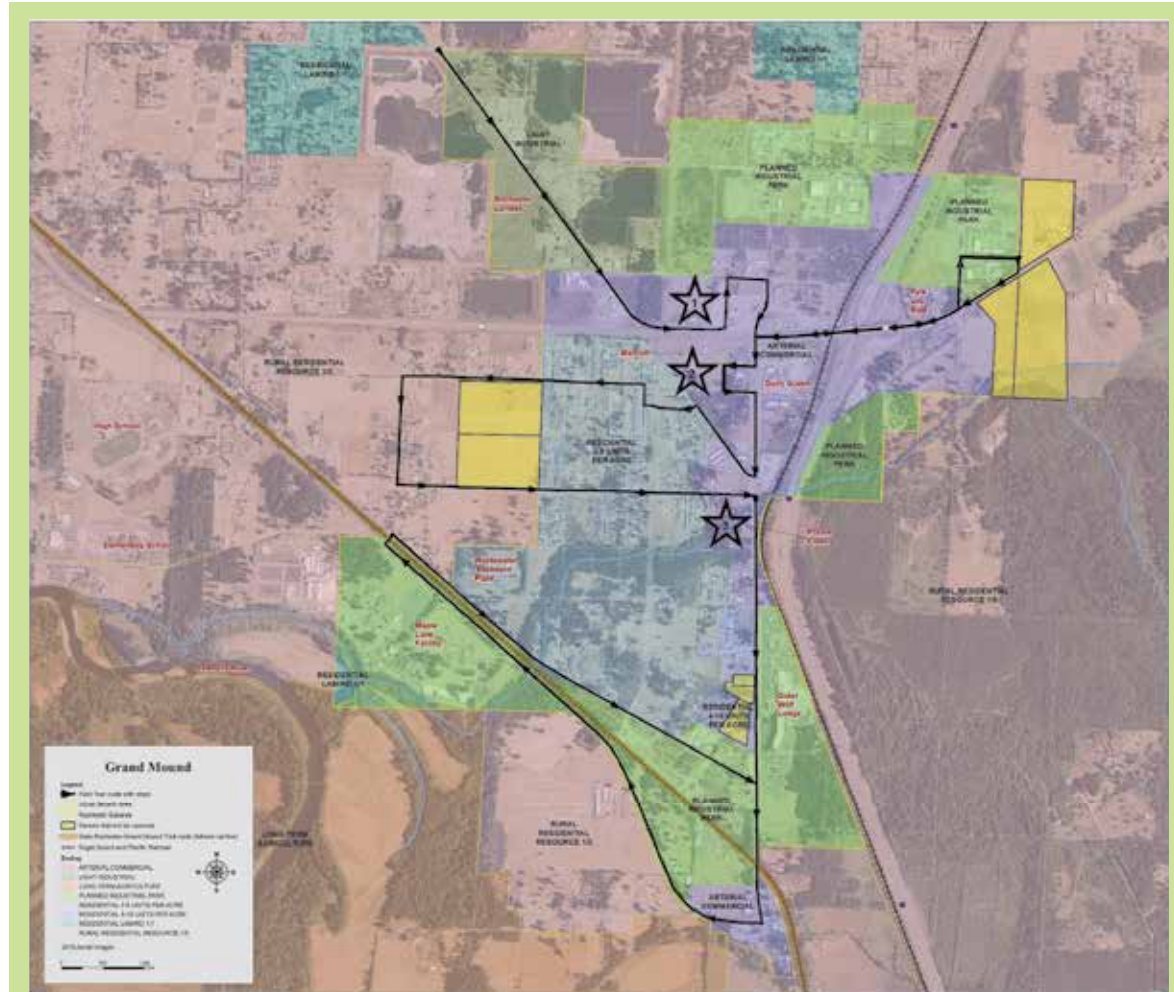


FIG 12: This map shows the driving route and focus areas of the June 28, 2018, technical workgroup tour of Grand Mound.

As technical workgroup members toured the area, they considered how existing, planned and potential building and transportation infrastructure projects currently affect or could affect safety, mobility, and placemaking for transportation system users, including: pedestrians (students, seniors, mobility device users, etc.); bicyclists (recreators, commuters, etc.); commercial drivers (buses, trucks, etc.); and, car/light-duty truck drivers (commuters, tourists, etc).

Specific questions that technical workgroup members considered included:

- Where are there current or potential transportation mobility and safety challenges (road segments and intersections)? ... What are these specific challenges (congestion, high speeds, lack of sidewalks, etc.) and for whom (which users)?
- What opportunities (wide shoulders, vacant parcels, etc.) exist to mitigate these challenges?
- What specific solutions (sidewalks, trail connections, intersection changes, etc.) could be used to mitigate these challenges?

After touring the area, workgroup members gathered at the West Thurston Regional Fire Authority Station 1-1, on Sargent Road, shared their assessments, and brainstormed potential solutions.

## NORTH OF 12 AREA



FIG 13: A marked crosswalk at the intersection at US 12 and Old Highway 99 connects burgeoning commercial development areas north and south of the State Highway. A large stormwater pond separates the intersection and community's "welcome" sign from buildings. This important intersection presents several opportunities for enhancing the community's sense of place and supporting multimodal transportation.

Challenges workgroup members noted for the "North of 12" area (vicinity of 197th Avenue and Edinger Morris Street) included:

- High vehicle speeds, noise, limited north-south crossings, and a lack of sidewalks make walking or biking difficult or unpleasant along US 12; and,
- Despite the presence of a "Welcome to Grand Mound" sign at the northwest corner of US 12 and Elderberry Street/Old Highway 99, there is little at this intersection that creates a unique sense of place. A large, grassy stormwater pond behind the sign poses both a placemaking challenge and opportunity [Figure 13].

Opportunities and solutions noted for this area included:

- Building a new intersection and welcome sign at US 12 and Sargent Road would create a new north-south crossing and east-west "gateway" point as one enters Grand Mound from Rochester;
- Planting street trees and building a berm along the southern edge of the stormwater pond at the US 12 and Elderberry Street/Old Highway 99 intersection would improve the intersection's aesthetics and reduce noise. Potential maintenance and safety issues associated with such changes must be addressed as part of this project's consideration; and,
- Improving the intersection at US 12 and Elderberry Street/Old Highway 99 could help reduce speeds and congestion.

## SOUTH OF 12 AREA



FIG 14: A new center median reduces vehicle turns and back-ups near the busy intersection of US 12 and Old Highway 99.

Challenges workgroup members noted for the “South of 12” area (Vicinity of 189th Way and Old Highway 99) included:

- There is an incomplete sidewalk along Old Highway 99, from US 12 to the Great Wolf Lodge, making it difficult for people who walk, ride a bicycle, or use mobility devices to travel between the commercial areas. The sidewalk gaps consist of uneven gravel surfaces, narrow road shoulders, or informal dirt paths.
- A center median just south of the US 12 and Elderberry Street/Old Highway 99 intersection [Figure 14] helps reduce back-ups on Old Highway 99 by limiting vehicular access to some businesses. Balancing roadway safety, mobility, and driver accessibility/expectations will remain a challenge as this area grows.
- This area around the US 12 and Elderberry Street/Old Highway 99 intersection is emerging as Grand Mound’s commercial core, but it lacks a “Main Street” like US 12 through nearby Rochester. This contributes to the lack of community sense of place.

Opportunities and solutions workgroup members noted for this area included:

- Frontage improvements, including sidewalks, are planned for 198th Street. This roadway, which is at the center of the commercial core, could become Grand Mound’s east-west “Main Street.”
- A sidewalk could also be built in the right-of-way along the southern edge of US 12. Separating the sidewalk and travel lanes with a vegetated buffer (trees, shrubs, etc.) could improve safety, aesthetics, and sense of place.

## SOUTHWEST OF SARGENT AREA



FIG 15: Chehalis Tribe-owned land at Prairie Creek and Old Highway 99 could support a park and trail while preserving oak woodland habitat.

FIG 16: A gravel road beneath power poles creates an informal north-south walking and bicycling route through Grand Mound's low-density neighborhood southwest of Sargent Road.



Challenges workgroup members noted for the "Southwest of Sargent" area (residential area west of Sargent Road and east of Old Highway 9) included:

- Sargent Road lacks sidewalks, which may discourage walking and bicycling between the existing low-density neighborhood to the southwest and the emerging commercial core to the northeast.
- The neighborhood features many vacant lots that break up the sidewalk network.
- There is no formal off-road trail network or park space within the neighborhood, which has few road connections to the commercial core northwest of Sargent Road.

Opportunities and solutions workgroup members noted for this area included:

- Planned frontage improvements (sidewalks, street trees, etc.) along Sargent Road would support walking and bicycling between the residential and commercial areas.
- Chehalis Tribe-owned land at Old Highway 99 and Prairie Creek, just south of the Sargent Road intersection [Figure 15], could support a park and potential trail along the creek and preserve oak woodland habitat.
- There is an informal trail and gravel road beneath powerlines that pass north-south through the residential area [Figure 16]. Creating a formal, multimodal trail along the power poles could connect a potential east-west Prairie Creek trail, Grand Mound's commercial core, and the proposed Gate-Rochester-Grand Mound Trail that would run parallel to Old Highway 9 [See Section 5].
- Potential residential infill development on vacant lots could bring frontage improvements that fill gaps in the sidewalk network.



# 4 REGULATORY FRAMEWORK

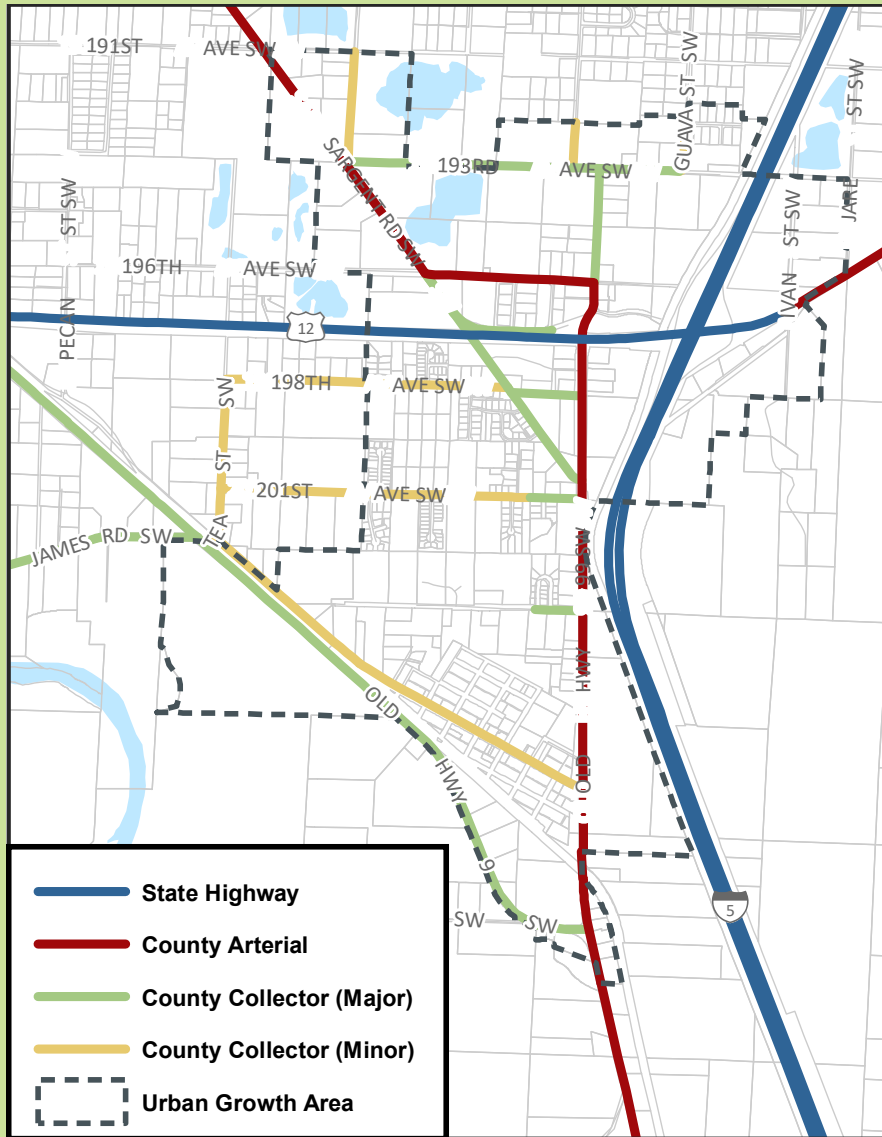


FIG 17: This map shows how Thurston County classifies larger roadways within Grand Mound.

According to the Thurston County Comprehensive Plan (Chapter 5), county urban road standards shall apply in the Grand Mound UGA, consistent with the road cross-sections in the Grand Mound Subarea Plan. The Comprehensive Plan explains that roadway classifications should reflect the appropriate emphasis on access or mobility (Thurston County, 2004). For example, a roadway intended as a major carrier of traffic, such as an “arterial” or “collector,” should have its efficiency of traffic flow maintained by limiting access to intersections and providing wide spaces between driveways. Conversely, if access is to be maximized, then local access roads should be designated.

## Roadway Classifications

Thurston County applies a functional hierarchy of classes to roadways, which determines their intended traffic volume, speed, and dimensions [Figure 17]. The following section notes characteristics for such roadway classes.

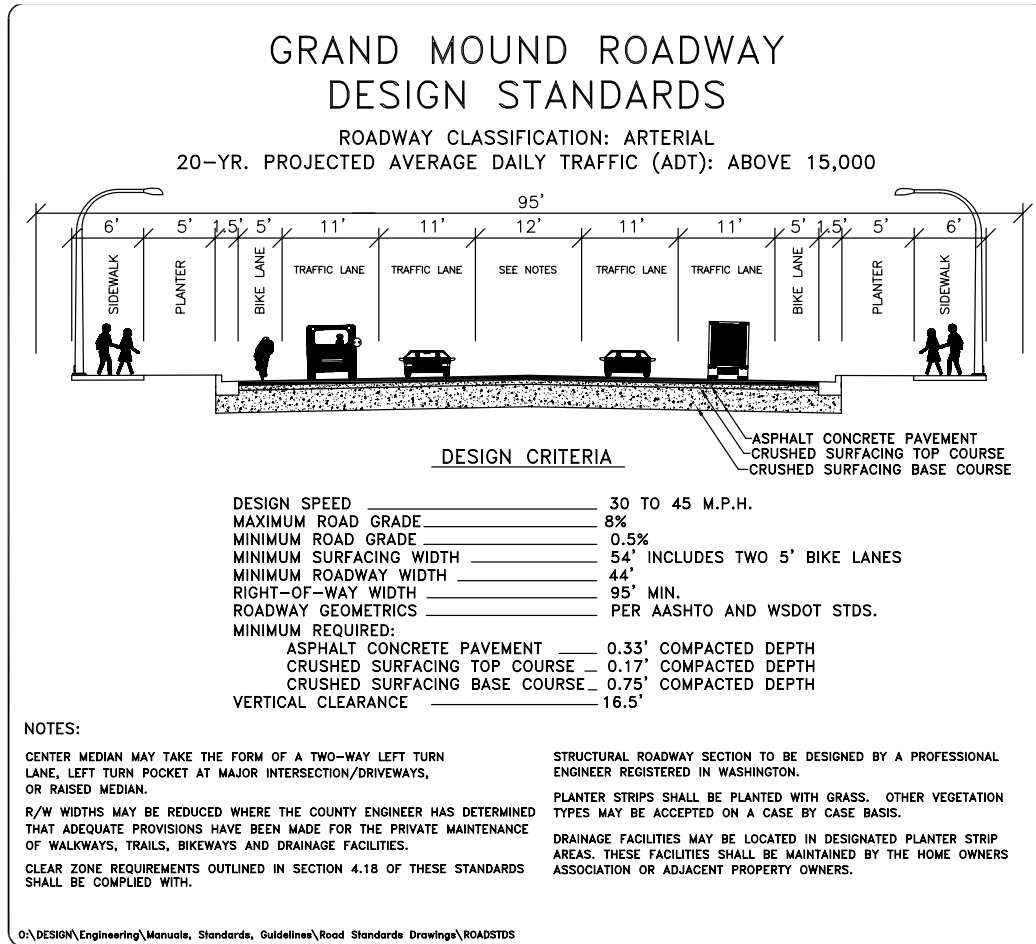
FIG 18: US 12 [pictured] is Grand Mound's major east-west roadway. The State Highway connects the growing community with I-5 and the Pacific Coast. Several commercial developments are planned along the stretch of roadway through Grand Mound, which features many vacant lots and few intersections today.



### State Highway

Grand Mound features two roadways that Thurston County classifies as a State Highway: US 12 and Interstate 5. I-5 is the West Coast's main north-south highway, stretching from Mexico to Canada. US 12 [Figure 18] travels east-west, from Aberdeen, Wash., to Detroit, Mich. WSDOT road standards apply to State Highways, but Thurston County can help influence the design of US 12 as it travels through Grand Mound.

FIG 19: Thurston County's Roadway Standards feature design standards for Grand Mound's Arterial Roadways.



LAST REVISED	7/2016



THURSTON COUNTY  
PUBLIC WORKS

DEVELOPMENT  
REVIEW

ROADWAY  
STANDARDS

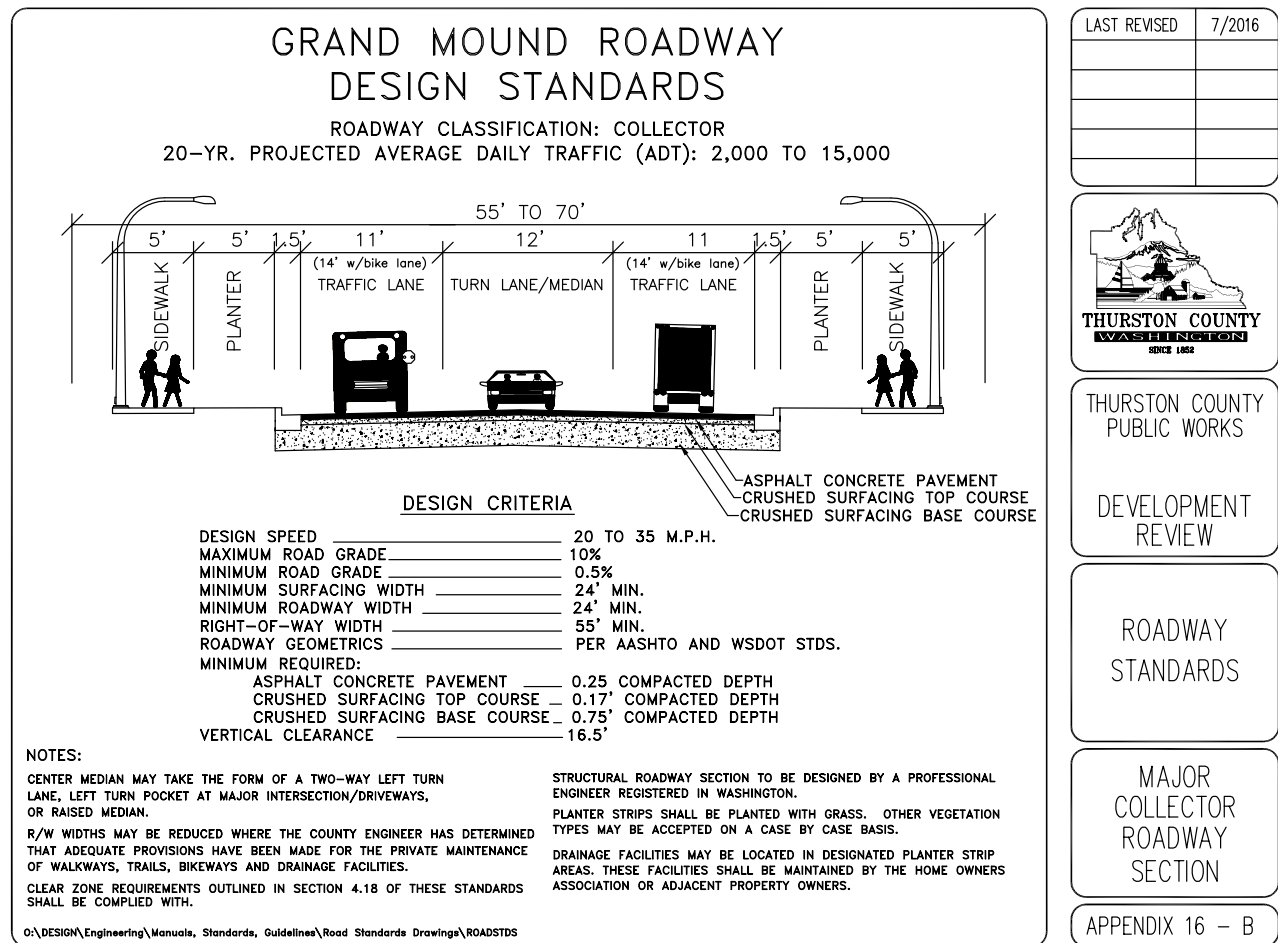
ARTERIAL  
ROADWAY  
SECTION

APPENDIX 16 - C

### County Arterial

Stretches of roadway within Grand Mound that are classified as County Arterials include Old Highway 99, Sargent Road SW, and the stretch of 196th Avenue SW that connects them. County Arterials have a 20-year projected average daily traffic volume of more than 15,000 vehicles and are designed for vehicle speeds of 30-45 miles per hour (Thurston County, 2017). Such roadways feature four traffic lanes, with either a center turn lane or a raised median [Figure 19]. Both sides of the roadway feature a bike lane, shoulder, planter strip, and sidewalk.

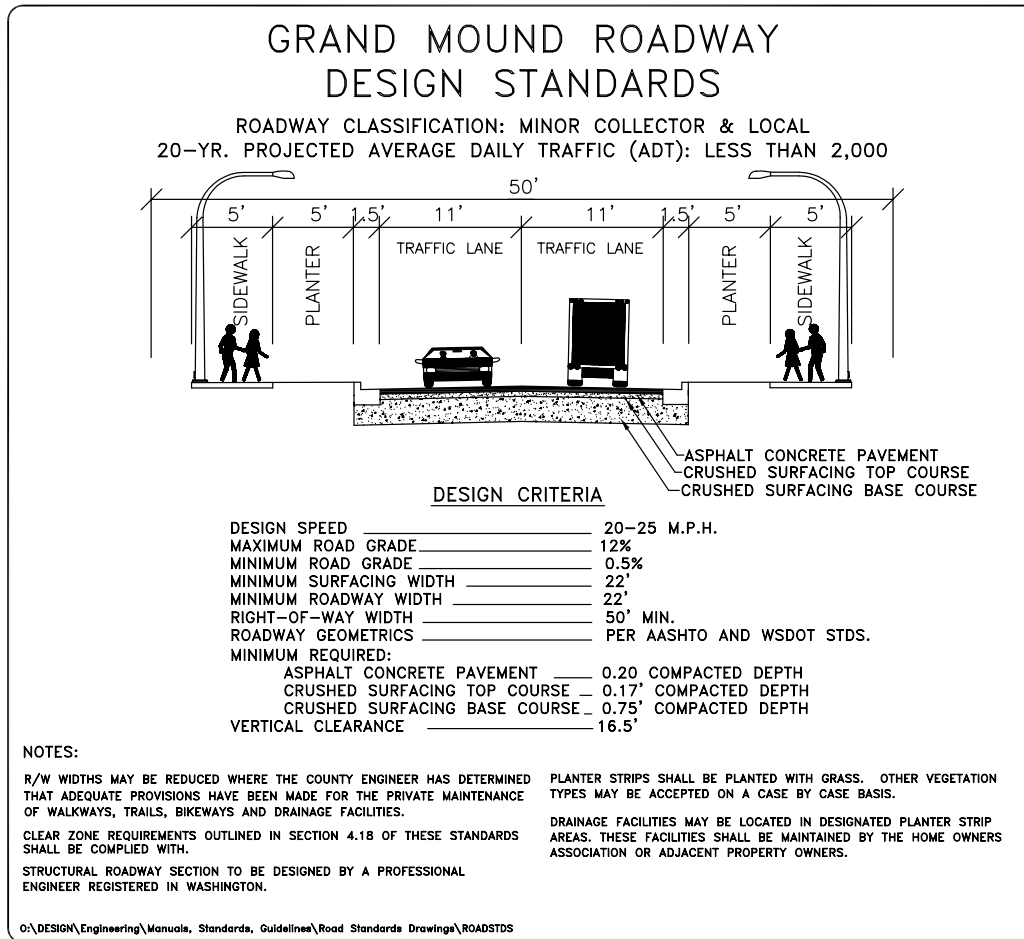
Figure 20: Thurston County's Roadway Standards feature design standards for Grand Mound's Major Collector roadways.



### County Collector (Major)

Stretches of roadway within Grand Mound that are classified as Major Collectors include Old Highway 9, 197th Avenue SW, and 193rd Avenue SW. Major Collectors have a 20-year projected average daily traffic volume of 2,000-15,000 vehicles and are designed for speeds of 20-35 miles per hour (Thurston County, 2017). Such roadways feature two traffic lanes, with either a center turn lane or median; each side features a shoulder, planter strip, and sidewalk [Figure 20].

Figure 21: Thurston County's Roadway Standards feature design standards for Grand Mound's Minor Collector and Local Roadways.



LAST REVISED	7/2016



THURSTON COUNTY  
PUBLIC WORKS

DEVELOPMENT  
REVIEW

ROADWAY  
STANDARDS

MINOR COLLECTOR  
& LOCAL  
ROADWAY  
SECTION

APPENDIX 16 - A

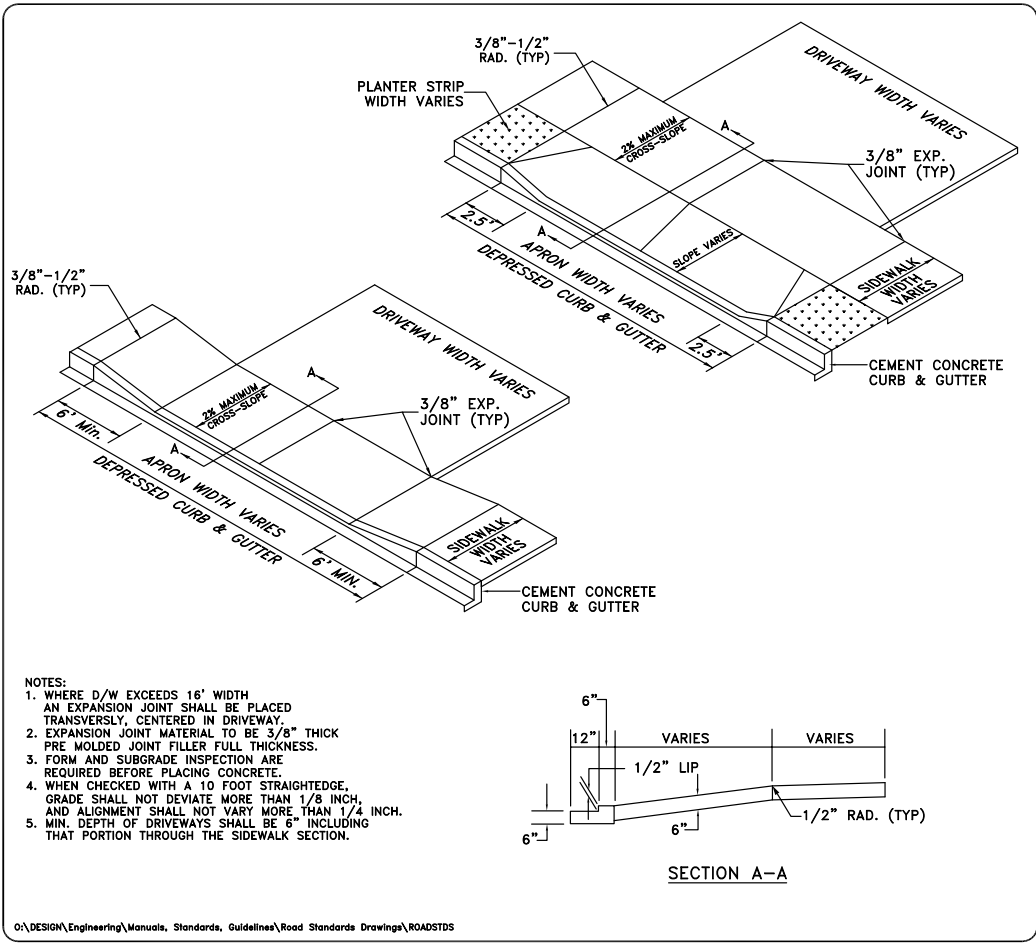
### County Collector (Minor)

Stretches of roadway within Grand Mound that are classified as Minor Collectors include Grand Mound Way SW, Tea Street SW, and 201st Street SW. Minor Collectors have a 20-year projected average daily traffic volume of less than 2,000 vehicles and are designed for speeds of 20-25 miles per hour (Thurston County, 2017). Such roadways feature two traffic lanes in the center; each side features a shoulder, planter strip, and sidewalk [Figure 21].

# Frontage Improvements

All properties within the Grand Mound UGA shall have urban roadway improvements as shown in the roadway cross-section diagrams of the Thurston County Road Standards, Chapter 16 (Thurston County, 2017). The following section details County regulations for the frontage areas that line roadways.

FIG 22: Thurston County's Roadway Standards feature design standards for Driveway Aprons.



LAST REVISED	7/2016



THURSTON COUNTY  
PUBLIC WORKS  
DEVELOPMENT  
REVIEW

ROADWAY  
STANDARDS

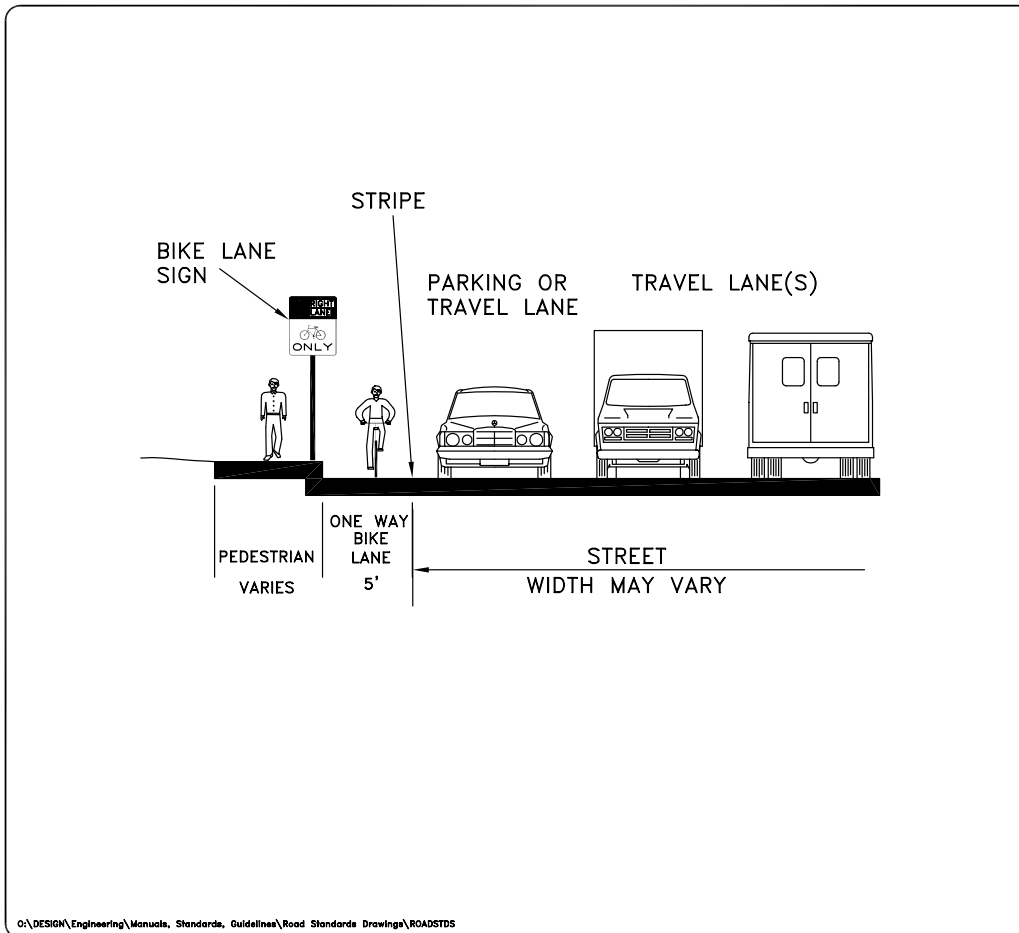
DRIVEWAY  
APRON

APPENDIX 16 - E

## Concrete Work

All concrete work — including sidewalks, ramps, curbs, gutters and driveways [Figure 22] — shall be built in accordance with the Thurston County Road Standards and applicable WSDOT specifications (Thurston County, 2017).

FIG 23: Thurston County's Roadway Standards feature design standards for bike lanes.



G:\DESIGN\Engineering\Manuals, Standards, Guidelines\Road Standards Drawings\ROADSTD5

LAST REVISED	7/2016



THURSTON COUNTY  
PUBLIC WORKS  
DEVELOPMENT  
REVIEW

ROADWAY  
STANDARDS

BIKE  
LANE

APPENDIX 16 – D

### Bikeways

The WSDOT Design Manual defines the minimum design standards for bikeways in the Grand Mound UGA (Thurston County, 2017).

One-way bike lanes shall be 5-foot-wide and separated from parking or travel lanes by a painted stripe [Figure 23].

Figure 24: A recently built sidewalk on Old Highway 99, just south of US 12, features a swale ditch planted with shrubs. Such low-impact development helps capture and filter stormwater runoff from surrounding road and sidewalk.



### Planter Strips

Planter strips, as noted in the roadway design standards, shall be planted with grass. Other vegetation types — for example, trees and shrubs in swales that help filter stormwater runoff and provide shade [Figure 24] — may be accepted by the Thurston County Engineer on a case-by-case basis (Thurston County, 2017).

## Development Regulations

### Zoning Code

Grand Mound's urban growth area stretches northward from the border of Thurston and Lewis counties to 191st Avenue SW. The UGA's east and west sides are generally hemmed in by I-5 and the Chehalis River [Figure 25]. A notable exception is industrial-zoned lands east of I-5 that feature warehouses and other highway-oriented businesses.

The UGA's current zoning — which generally allows taller and more intense development along arterials — is consistent with the 2006 Grand Mound Subarea Plan's objectives:

- The UGA's core around I-5, US 12 and Old Highway 99 features Arterial Commercial (AC) zoning that allows hotels, restaurants, grocery stores, and other businesses that are oriented toward vehicular traffic. Such zoning allows buildings up to 40 feet tall, encourages improvement of existing strip malls, and allows in-fill development with commercial and high-density residential uses;

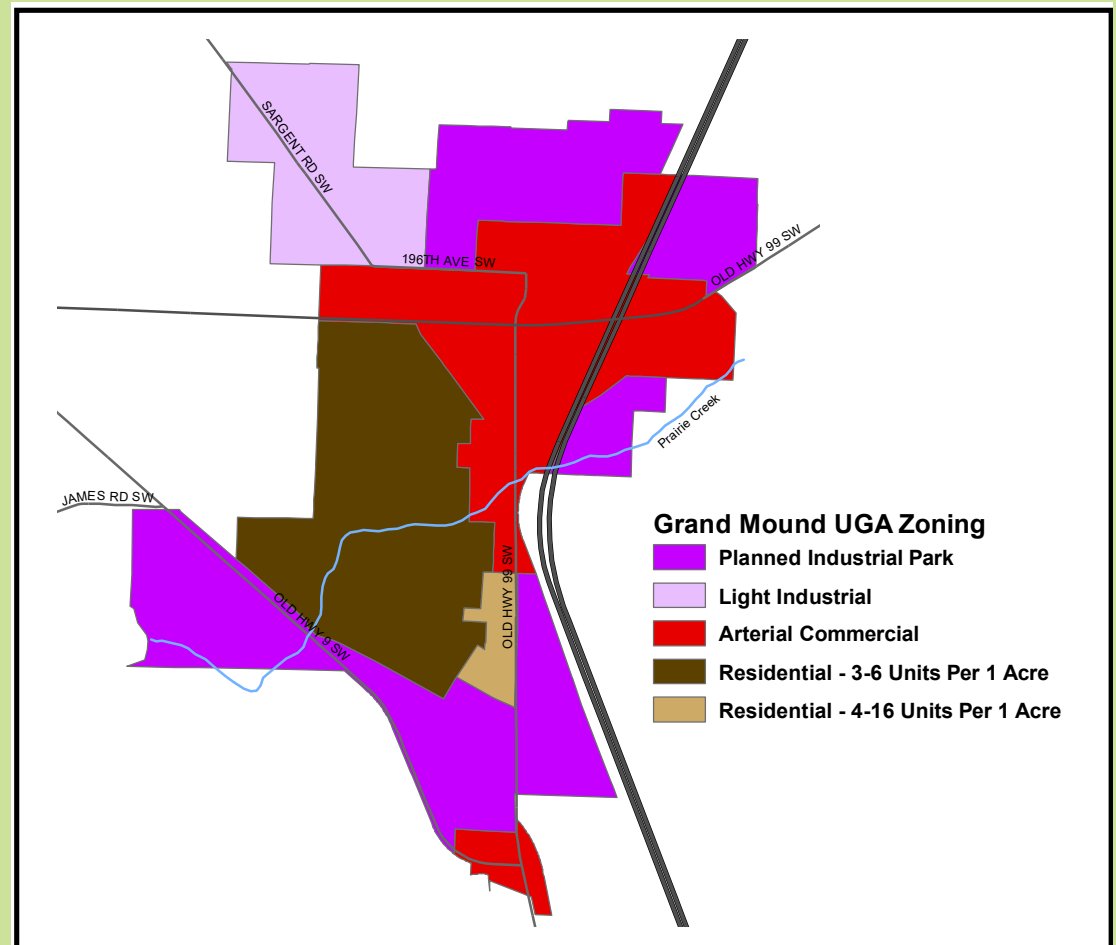


FIG 25: This map shows the current zoning designations for land within the Grand Mound Urban Growth Area. Generally, commercial and industrial lands line the area's larger roadways.

- Surrounding areas with convenient access to highways and railroads feature Planned Industrial (PI) zoning that allows manufacturing, processing and storage businesses (e.g., the area east of I-5).
- The area bookended by US 12 on the north and Old Highway 9 on the south features residential R 3-6/1 zoning that allows 3-6 housing units per acre. A small area southwest of 203rd Avenue SW and Old Highway 99 allows 4-16 housing units per acre — R 4-16/1 zoning that permits for the construction of an apartment building, for example.

[Title 20](#) of the Thurston County Code features specific design and density standards for these and other zoning areas.

### **Landscape Buffers**

The Grand Mound Development Guidelines, published in 1998, function as the development standards for buildings in the Grand Mound UGA and supplement regulations of the underlying zoning districts, as well as the sign, parking and landscaping regulations in Title 20 of the Thurston County Code (Thurston County, 1998).

Developments in Grand Mound shall have a minimum 10-foot landscape buffer strip along all arterial roads and abutting US 12, according to the Grand Mound Development Guidelines. Street trees shall be spaced 40 feet on center within the required landscape buffer strip, starting 20 feet from the property line. Tree spacing shall be adjusted slightly to allow a 10-foot clear zone on either side of the driveway and at street intersections.

Along all collector roads, a minimum 5-foot landscape buffer strip is required by the guidelines. Street trees shall be planted within the required landscape buffer strip at a ratio of one tree per 40 linear feet of street frontage. The guidelines also set rules for landscaping along commercial, industrial and residential district boundaries, as well as landscaping within parking lots.

FIG 26: A sidewalk and marked crosswalks connect a new hotel's large parking lot with adjacent commercial buildings. Such frontage improvements, which support pedestrian safety amid commercial clusters, are consistent with the Grand Mound Development Guidelines.



## Parking Lots

The Grand Mound Development Guidelines stipulate that, if a parking area contains more than 30 parking spaces, no more than 50 percent of required parking shall be located between the front of the property line and the closest point of the building. The provision applies only to the street frontage providing primary access to the site.

The guidelines also stipulate that, if a parking area contains more than 30 parking spaces, walkways shall be provided within the parking lot to ensure safe pedestrian access to the buildings [Figure 26].



# 5 CURRENT CONDITIONS



FIG 27: Sidewalks, curb cuts and marked crossings support safe walking between a new hotel, restaurants and other commercial businesses near the intersection of Old Highway 99 and US 12.

## Bicycle & Pedestrian Facilities

Since the Great Wolf Lodge opened in early 2008, Grand Mound's core has begun to fill in with a variety of highway-oriented commercial businesses. New commercial developments, notably those near US 12 and Old Highway 99, feature sidewalks, curb ramps, and marked crossings that comply with regulations [Figure 27]. Such infrastructure supports safe walking between businesses.

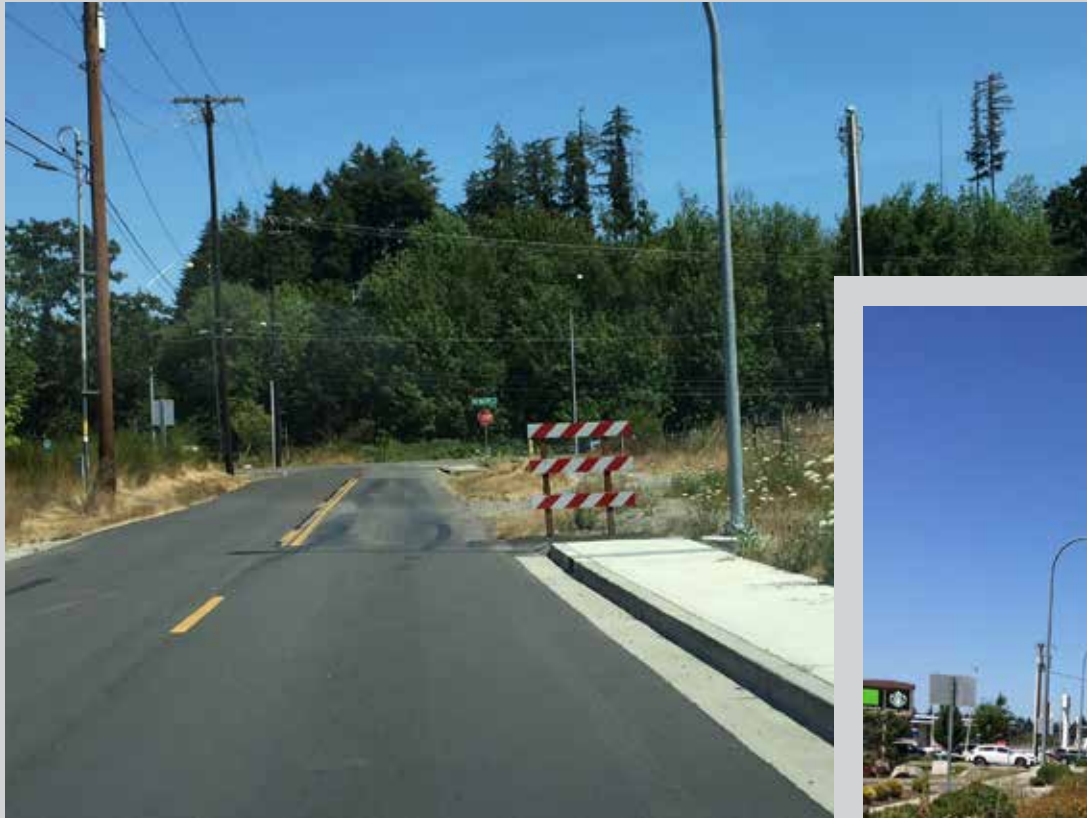


Figure 28: An undeveloped lot creates a gap in the sidewalk along 201st Avenue, just west of Old Highway 99.



FIG 29: Old Highway 99's paved shoulder is separated from the adjacent travel lane by a solid stripe and provides a key north-south route for cyclists in Grand Mound.

Vacant lots in and around Grand Mound’s commercial core, however, present a patchwork street edge of sidewalks, curbs, bike lanes and crosswalks [Figure 28]. This can make “active transportation,” such as walking or bicycling between businesses and neighborhoods, difficult.

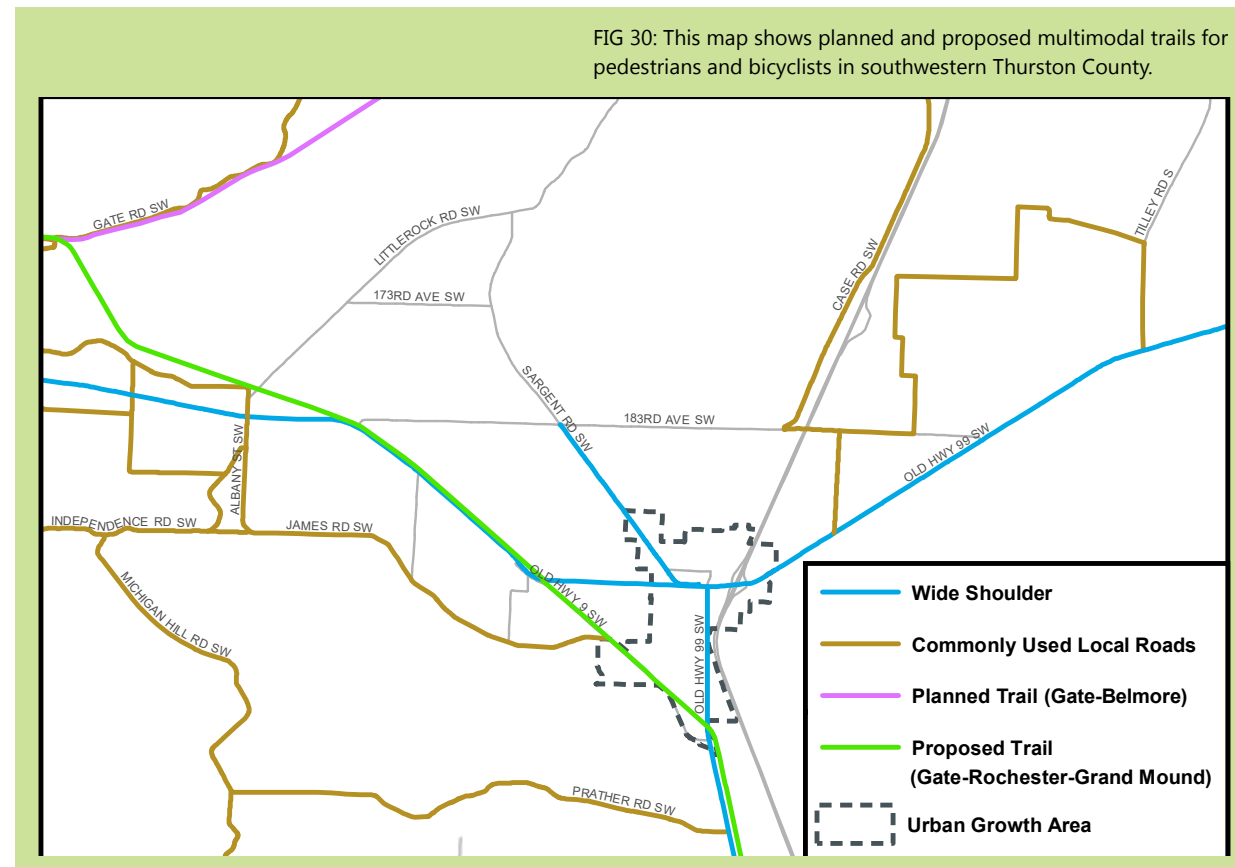
The [Thurston County Bicycle Map](#) identifies US 12, Sargent Road SW, and Old Highway 99 as roads with paved shoulders wide enough for cyclists [Figures 29 & 30]. While cyclists use these busy roads’ shoulders and sidewalks, their close proximity to large trucks and other fast-moving vehicles could discourage more active transportation.

Looking ahead, the [Thurston Regional Trails Plan](#) (TRPC, 2007) proposes two paved, off-road trails in the Rochester-Grand Mound area [Figure 30]. Such trails could provide safer alternatives for pedestrians and bicyclists in southwestern Thurston County.

The Gate-Belmore Trail would follow an old rail corridor and connect Tumwater with the historic townsite of Gate. Just east of Moon Road SW, the Gate-Belmore Trail would connect with the

proposed Gate-Rochester-Grand Mound Trail that would continue southeasterly into Grand Mound.

The latter trail would follow the route of the Puget Sound & Pacific Railroad, which follows stretches of US 12 and Old Highway 9 through southwestern Thurston County. Thurston County owns most of the right-of-way needed to establish the Gate-Belmore Trail but not the Gate-Rochester-Grand Mound Trail (TRPC, 2018).



## Freight & Passenger Railroad Facilities

Two active railroad lines enter Grand Mound at the Lewis County border, north of Centralia [Figure 31].

The Puget Sound & Pacific Railroad, which runs parallel to Old Highways 9 and 99, en route to Elma, is designated by the State of Washington as a railroad freight economic corridor. According to WSDOT's Freight Systems Division, the railroad corridor was considered an R2 line in 2016, which indicates between one and five million tons of freight traveled the corridor (WSDOT, 2016). The railroad is owned by Genesee & Wyoming Inc. and is integral to the McFarland Cascade pole yard operations in nearby Rochester (TRPC, 2018).

The Tacoma Rail Mountain Division line runs parallel to I-5's western edge through Grand Mound. The railroad line, which is owned by the City of Tacoma, is a handling line carrier for BNSF Railway (Tacoma, 2018). According to WSDOT's Freight Systems Division, the railroad corridor was considered an R5 line in 2016, which indicates that less than half a million tons of freight traveled the corridor (WSDOT, 2016).

The nearest passenger railroad stations are in Centralia and Lacey, on a line owned by the BNSF Railway. Amtrak Cascades trains that stop at these stations travel between Eugene, Ore., and Vancouver, B.C. The railroad line also is a critical route for freight trains traveling along the West Coast.



FIG 31: This map shows the name and location of railroad lines that cross through the Grand Mound Urban Growth Area.

# Transit & Park-and-Ride Facilities

[ruralTRANSIT](#) (rT), managed by the Thurston Regional Planning Council, operates routes that serve the rural communities of Rochester, Tenino, Bucoda, Rainier and Yelm, and the Confederated Tribes of the Chehalis Reservation. rT Routes 3 and 4 connect at the Grand Mound Park-and-Ride lot — on Old Highway 99, just east of the I-5 interchange — before continuing northeast to Tumwater and Tenino, respectively [Figure 32]. Route 3 has a second stop in Grand Mound, at the corner of US 12 and Pecan Street SW, and a single stop in Rochester, at the corner of US 12 and Albany Street SW (ROOF Center).

Two other transit agencies provide bus service to the broader area, but have no designated stops in Grand Mound: [Grays Harbor Transit](#) Route 45 connects Aberdeen and Centralia via US 12 and stops at the Rochester Mercantile, 10145 US 12. [Twin Transit](#), which serves the Centralia and Chehalis area, has a Route 22 stop at the corner of Hoss Road and Old Highway 99, just south of the border of Thurston and Lewis counties; the route connects port properties in northwest Centralia with the city's downtown.

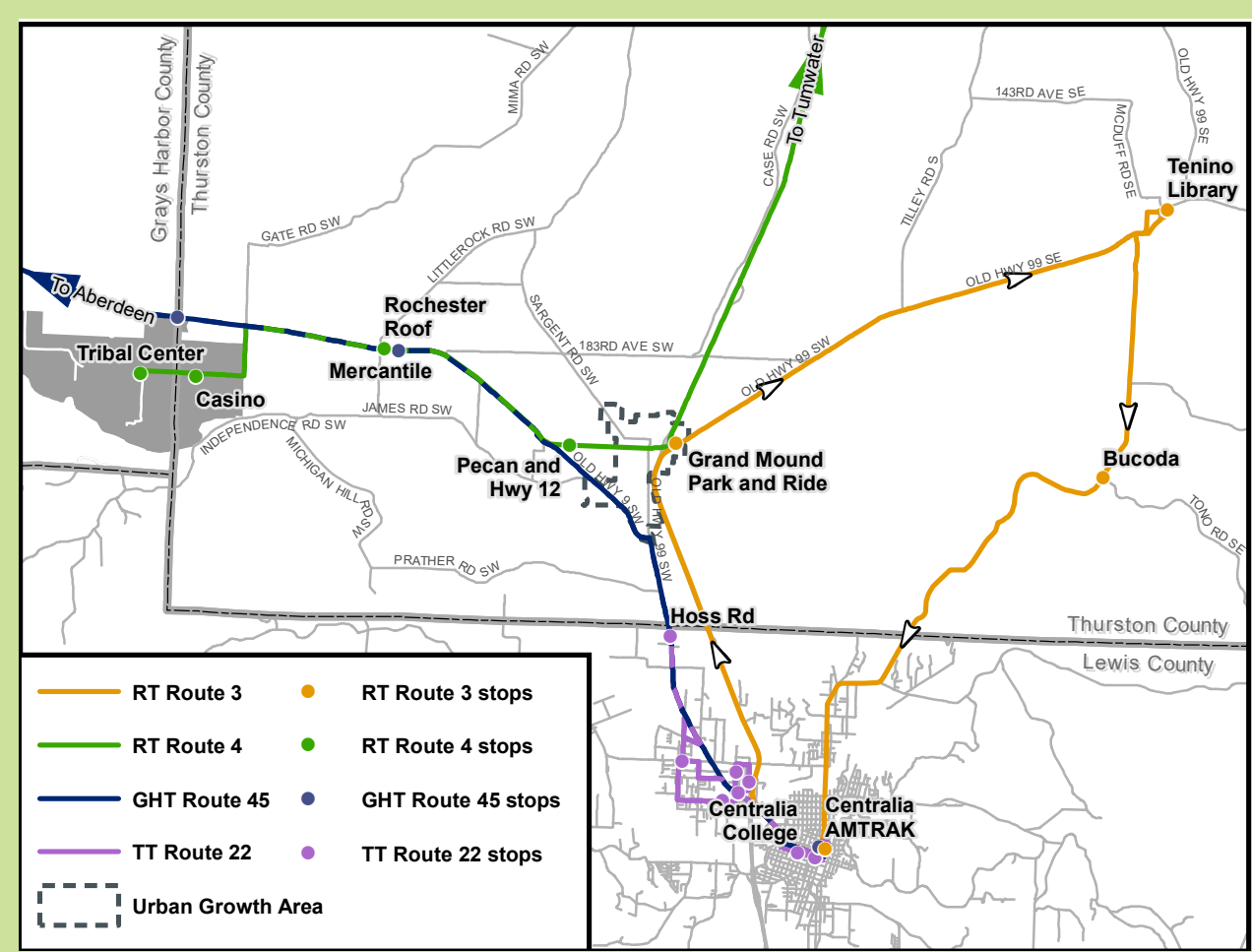


FIG 32: This map shows the name and location of bus transit routes and stops within and near the Grand Mound Urban Growth Area.

The community survey TRPC distributed on behalf of Thurston County in early 2018 showed that a private vehicle is the primary means of traveling around Grand Mound for most respondents, yet a bus is also an important secondary mode of travel for the more than 20 percent of Question 3 respondents who noted they ride the bus more than once a week.

To further flesh out this issue, Question 4 asked about barriers that prevented respondents from riding a bus more often. Nearly equal numbers of respondents noted that bus frequency and bus stop locations were barriers to them riding the bus more often. Just 13 respondents (10 percent) said bus trip time and distance were barriers. Eighty-nine respondents (68 percent) said they wouldn't ride the bus anyway.

### Q3. How frequently do you ride the bus?

RESPONSE OPTION	COUNT	% OF TOTAL RESPONSES
At least once a week	32	22
One or more times a month	1	1
Rarely	9	6
Never	107	73
<b>Total Responding to Question</b>	<b>147</b>	<b>-</b>

### Q4. I would ride the bus more often if: (choose all that apply)

RESPONSE OPTION	COUNT	% OF TOTAL RESPONSES
The service had more frequent connections to Olympia/Tumwater/Lacey	27	21
The service had more frequent connections to Centralia/Chehalis	21	16
The bus stop were closer to home or destination	23	18
It took less time to get to my destination	13	10
I wouldn't ride the bus anyway	89	68
<b>Total Responding to Question</b>	<b>130</b>	<b>-</b>

## Roadway Safety & Maintenance

Community members who attended Thurston County's open houses in early 2018 said roadway safety was perhaps their greatest transportation-related concern. Attendees explained that factors affecting roadway safety include vehicles tailgating and failing to stop at intersections, insufficient numbers of street lights and speed-limit signs on some roads, and blind spots at some intersections that make turning difficult or dangerous. Community members added that many vehicles exceed the posted speed limit on arterials and neighborhood streets.

Open house attendees noted that intersections with some of the greatest safety challenges include Pecan Street and US 12 and Denmark Street and US 12, which are west of the Grand Mound UGA. Within the Grand Mound UGA, the intersections identified with the greatest safety challenges are Old Highway 99 and US 12, Old Highway 99 and 201st Avenue, and Old Highway 99 and Old Highway 9.

As noted previously in this report, respondents who filled out the 2018 survey (Question 7) selected the following three intersections where new transportation infrastructure could most improve safety: Old Highway 99 and 198th Avenue; US 12 and Sargent Road; and, US 12 and Old Highway 99.

A map of automobile crash locations over the past several years (1/2010-7/2017) in Grand Mound shows that the vast majority of such traffic incidents occurred on US 12, Old Highway 99 and Old Highway 9. Sargent Road and James Road also had several crashes over this time period [Figure 33].

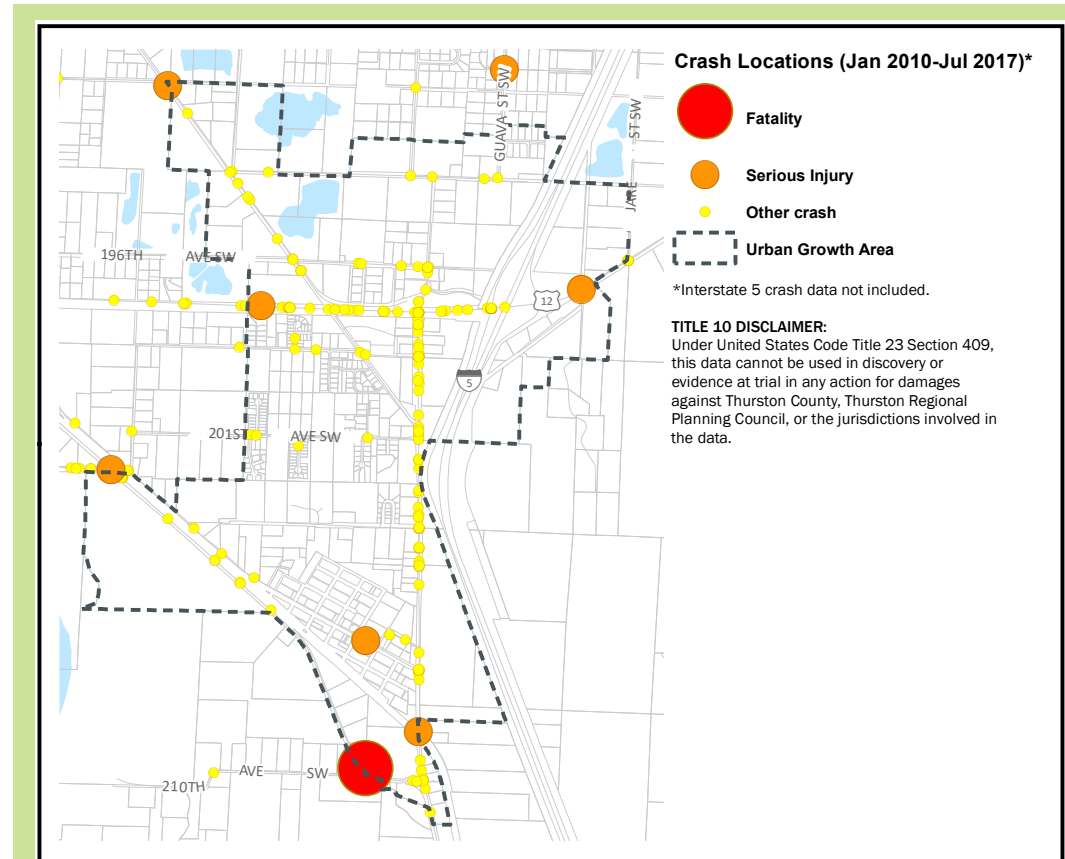


Figure 33: This map shows the locations of vehicle crashes in recent years in Grand Mound. Most crashes occurred on roadways with higher vehicle speeds and volumes.

Roadway maintenance appeared to be a far lesser concern among Grand Mound community members. At the open houses, community members noted a few spots where they say potholes need filling and sidewalks need repairs or completion (e.g., at Old Highway 99 and 201st Avenue). Maintenance ranked as a comparatively low investment priority in Thurston County's recent survey.

Survey Question 8 asked respondents which two factors are the most important for Thurston County to consider when making transportation investments. Safety and congestion investments were selected the greatest number of times, while bike and pedestrian investments, cost, and maintenance were selected least.

**Q8. Which two factors are most important for the County to consider when making transportation investments?**

<b>RESPONSE OPTION</b>	<b>COUNT</b>	<b>% OF TOTAL RESPONSES</b>
Safety	79	52
Congestion	68	45
Bike & Pedestrian	22	15
Economic Development	44	29
Cost	27	18
Road Maintenance	33	22
<b>Total Responding to Question</b>	<b>151</b>	<b>-</b>

## Roadway Volume & Congestion

Thurston County uses Level of Service (LOS) — a qualitative measure of traffic congestion — to describe how well a roadway (transportation facility) is operating from a traveler’s perspective, in terms of travel times, freedom to maneuver, traffic interruptions, comfort and convenience (Thurston County, 2004). Six LOS measurements represent conditions from “free-flowing” (A) to “gridlock” (F) in Thurston County [Figure 34].

Thurston County applies LOS D to county roads within the Grand Mound Urban Growth Area. This is a recognition that some congestion is to be expected and acceptable in the urbanizing area.







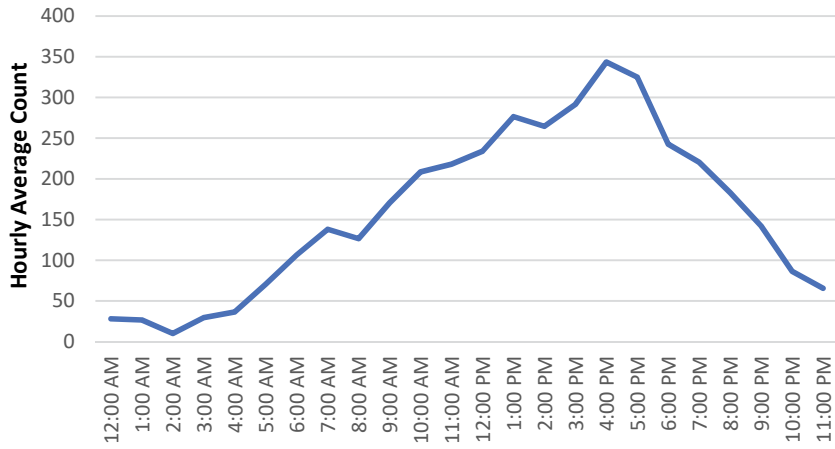
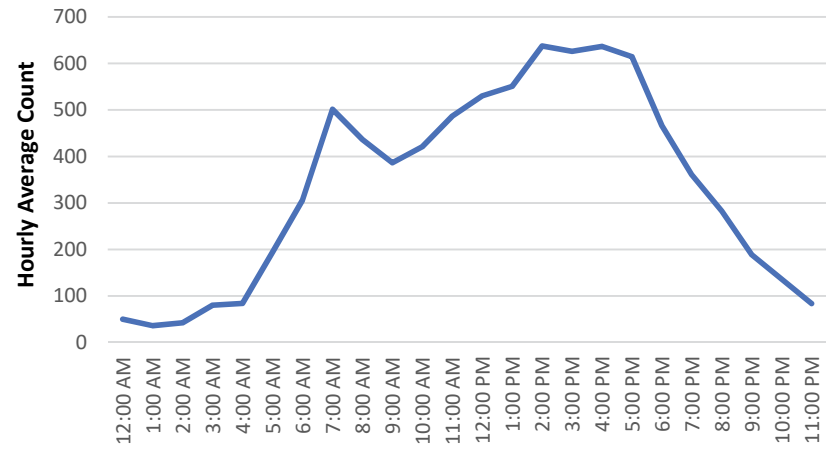
Level of Service	Description	Flow Conditions
A	Highest driver comfort; free-flowing traffic	
B	High degree of driver comfort; little delay	
C	Acceptable level of driver comfort; some delay	
D	Some driver frustration; moderate delay	
E	High level of driver frustration; high delay	
F	Highest level of driver frustration; excessive delay	

Figure 34: This figure describes in qualitative terms the Level of Service (LOS) standards for transportation facilities in Thurston County.

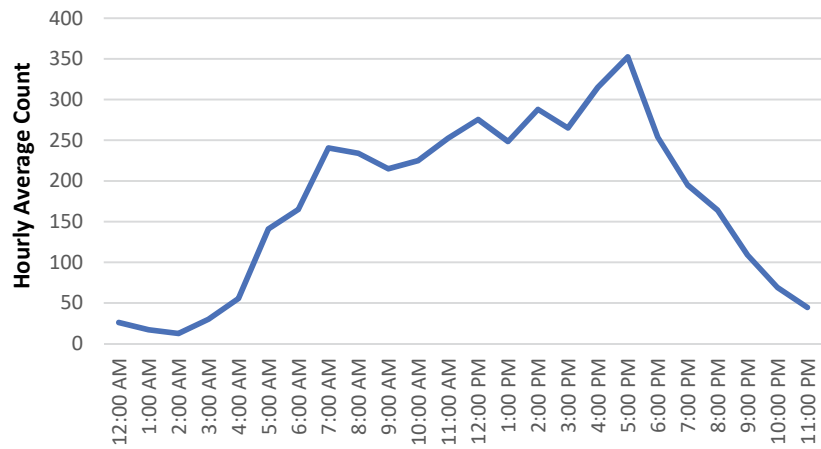
**Old Hwy 99 (Northbound)**



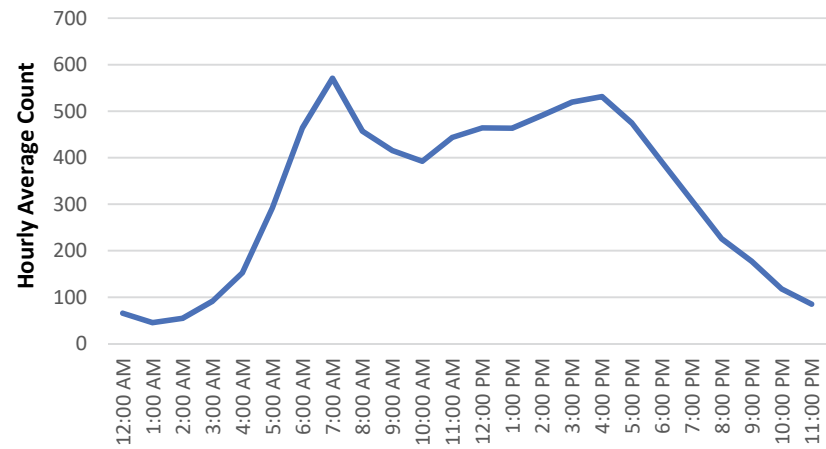
**SR 12 (Westbound)**



**Old Hwy 99 (Southbound)**



**SR 12 (Eastbound)**



- Locations: Old Hwy 99/Elderberry, I-5
- Times: Averaged TU 3/27/2018 – TH 3/29/2018
- Source: WSDOT Short Duration Count

- Locations: SR-12 to 196<sup>th</sup> Ave SW, Grand Mound Way
- Time: WED 8/2/2017
- Source: Thurston County

FIG 35: These graphs show how vehicle volumes peak during the mornings and evenings along Grand Mound’s main east-west roadway (US 12) and north-south roadway (Old Highway 99).

Recent development projects — notably the Great Wolf Lodge and Lucky Eagle Casino — have increased vehicle volumes on US 12 and Old Highway 99. Other traffic generators near the US 12/Old Highway 99 intersection include: two gas stations, four fast-food restaurants, a bank, a coffee shop, and a hotel. The following graphs [Figure 35], which are based on traffic counts collected by Thurston County, show vehicle volumes on US 12 and Old Highway 99 through the course of a weekday.

Congestion occurs near the I-5/US 12 interchange during the morning and evening commute periods, according to TRPC’s transportation demand model [Figure 36]. WSDOT’s recent corridor sketch notes that US 12 traffic near I-5 regularly operates at or below 70 percent of the posted speed limit (40 miles per hour) (WSDOT, 2018).

Additional development could attract new vehicles to the area.

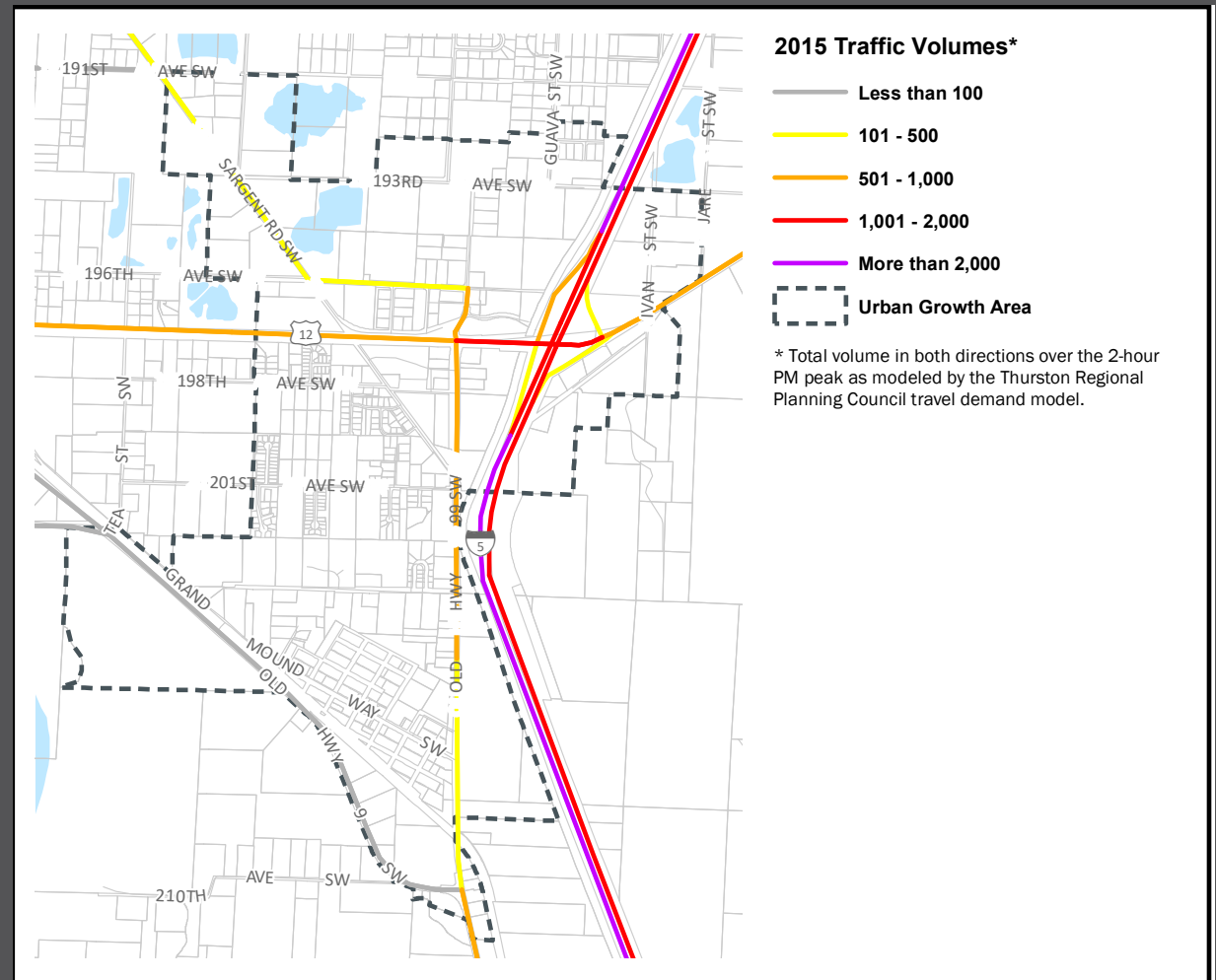


FIG 36: This map shows Grand Mound roadways with the highest traffic volumes during the evening rush hours of 2015, according to TRPC’s travel demand model. The greatest volumes were at the nexus of US 12 and I-5.

Several new commercial businesses, including a brewpub and gas station, are slated to rise near the US 12 and Elderberry Street/Old Highway 99 intersection over the next few years. By 2020, the Washington Department of Corrections will expand to 128 the number of inmate beds at its Maple Lane Facility on Old Highway 9 (Hartman, 2018). The agency is considering adding up to 572 more beds (maximum of 700 beds total) at the facility over the next decade, contingent upon approval and funding from the Washington Legislature. Add to this, survey respondents said they also want more housing and specific businesses (e.g., a grocery store) in Grand Mound [See survey questions 10-14 in Appendix].

All of this to say, the time is right to take stock of Grand Mound's recent and proposed development work [Figure 37] and to plan thoughtfully for the future.

In coming months, Thurston County and TRPC will work with community stakeholders and a consultant to consider land use scenarios, model transportation impacts, and evaluate transportation actions to mitigate existing and potential transportation safety and mobility

challenges associated with growth. Thurston County and TRPC also will consider how potential actions — for example, building new sidewalks, trails and intersections — could also enhance Grand Mound's economy and sense of place. A similar planning process is underway for the section of US 12 that serves as Rochester's "Main Street." Visit [www.trpc.org/818/Main-Street-Rochester](http://www.trpc.org/818/Main-Street-Rochester) for more information.

FIG 37: Mounds of dirt cover a vacant lot, just east of a planned intersection at Sargent Road and US 12. The Chehalis Tribe, which owns the lot, has proposed building a distillery and brewpub here.



# 6 REFERENCES

Chehalis Tribe (2009). Grand Mound Development Plan. Produced by a consultant team led by Maul Foster & Alongi for the Confederated Tribes of the Chehalis Reservation. January 2009.

MRSC (2018). Growth Management Act fact sheet. Website retrieved on March 20, 2018: <http://mrsc.org/getdoc/37359eae-8748-4aaf-ae76-614123c0d6a4/Comprehensive-Planning-Growth-Management.aspx>.

SCJ (2017). Technical Memorandum: 198th Ave. SW/Old Highway 99 SW Intersection Control Alternatives Analysis. Produced by SCJ Alliance Consulting Services for Thurston County. July 7, 2017.

Thurston County (1998). Grand Mound Development Guidelines. Thurston County Development Services. Olympia, WA. 1998.

Thurston County (1996). Grand Mound Subarea Plan for the Grand Mound Urban Growth Area. Thurston County Development Services. Olympia, WA. 1996.

Thurston County (2004). Thurston County Comprehensive Plan: Chapter 5 — Transportation. Thurston County Community Planning. Olympia, WA. 2004.

Thurston County (2017). Thurston County Road Standards. Thurston County Public Works. Olympia, WA. January 2017.

TRPC (2007). Thurston Regional Trails Plan. Thurston Regional Planning Council. Olympia, WA. December 2007.

TRPC (2018). Main Street Rochester: Current Conditions Report. Thurston Regional Planning Council. Olympia, WA. 2018.

Hartman, S. (2018, September 19). Telephone interview.

WSDOT (1999). U.S. 12 Route Development Plan: City of Aberdeen to Grand Mound. Washington State Department of Transportation Olympic Region. Olympia, WA. April, 1999.

WSDOT (2016). Freight and Goods Transportation System: Map of FGTS Rail Freight Corridors in Washington State. Website retrieved on Aug. 24, 2018: <http://www.wsdot.wa.gov/Freight/fgtS/>

WSDOT (2018). Corridor Sketch Summary for US 12: SR 8 Jct (Elma) to I-5 Jct (Grand Mound). Washington State Department of Transportation. Olympia, WA. March, 2018.

