

SR 104 Complete Street Corridor Analysis

City of
Edmonds
Washington 

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STUDY PURPOSE AND METHODOLOGY

PROJECT OVERVIEW

The SR 104 Corridor Complete Streets Corridor Analysis evaluates existing transportation conditions, relies on input from stakeholders and users, and analyzes potential safety and mobility improvements for drivers, bicyclists and pedestrians, and transit. The study identifies key improvements that may be included for future consideration in the city's Capital Improvement Program.

SR 104, shown in **Figure 1**, extends for four miles between Downtown Edmonds and 76th Ave W, just west of I-5. It serves as one of two primary east-west arterial connections in Edmonds.

GUIDING PRINCIPLES

After consulting with stakeholders, a corridor vision was developed that is based on the following guiding principles:

- Support both local and regional mobility
- Improve circulation and safety for biking, walking, and transit access
- Reinforce land use vision, including at Westgate
- Create a sense of arrival in Edmonds and tie to the waterfront
- Coordinate with the state and other entities
- Take a phased approach that provides benefits over time
- Promote environmental sustainability and economic vitality

Working with a Technical Advisory Committee and conducting extensive public outreach, the City used these principles to identify and prioritize the corridor recommendations outlined in this report.

COMMUNITY OUTREACH

Community involvement was important in developing and implementing a successful corridor plan for SR 104. To prepare a common vision for future improvements to the corridor, the City gathered input from the community at two public open houses and use of the city's website. A technical advisory committee was also formed to serve as a forum for information sharing among city staff, City Council, WSDOT, Community Transit, and the Planning Board. The project team conducted stakeholder interviews, created informational materials and website content, and facilitated the committee meetings.

The City identified key target audiences to engage:

- Businesses and residents along the project corridor and within the City of Edmonds
- Users of the project corridor; local and regional
- Local agencies, such as Edmonds School District and Community Transit
- Washington State Department of Transportation
- City of Edmonds staff
- Elected officials

CORRIDOR PROFILE

This section characterizes existing and future conditions on SR 104 in the City of Edmonds. The following sections describe the corridor in terms of character, land, use, physical conditions, and transportation operations.

CHARACTER

The four-mile section of SR 104 changes character several times, from a downtown environment near Puget Sound, to neighborhood zones with frequent property access, to commercial areas that serve multiple businesses. The changing character means that a single design concept may not be appropriate along the entire corridor.

SR 104 can be thought of as having four primary 'zones', as shown in **Figure 2**. The project recommendations were tailored to best meet the needs of the surrounding land uses and roadway function as shown in these zones.

WSDOT Main Street Design

WSDOT has developed Chapter 1150 of its Design Manual (July 2014) that defines Context and Modally Integrated Design- Main Streets. WSDOT realizes that many state highway segments function as the main streets of communities. The main streets not only move people and goods, but provide a sense of place. In these locations, there is a need for design flexibility to address tradeoff aspects in design. These tradeoffs can be articulated once a community vision is created for a street.

Along SR 104, WSDOT and the City of Edmonds collaborated to create a vision for the roadway, which changes character throughout its length. While SR 104 is an important highway connector within the region, and a Highway of Statewide Significance, it also serves as one of the main streets for the Edmonds community. This is particularly apparent in the Westgate area, which the City is planning to redevelop over time into a mixed use, pedestrian-oriented neighborhood.

In this context, WSDOT is supportive of street design on SR 104 that facilitates safe and efficient mobility for all travel modes. This means that there are tradeoffs between such factors as vehicle speed and delay, roadway width, and pedestrian treatments. WSDOT has indicated that it has no plans to widen SR 104 or to add turning lanes throughout its length. The existing roadway configuration will allow for efficient movement of vehicles through the corridor, while still providing an opportunity to calm the traffic speeds and facilitate safe and efficient pedestrian movements.



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Figure 2
Planning Context for the SR 104 Complete Streets Corridor

Pedestrian-Oriented Ferry Waiting Area

The section of SR 104 in downtown Edmonds provides access to downtown land uses and also serves as a waiting area for auto traffic entering and leaving the ferry terminal. The roadway accommodates a mix of pedestrians, stopped cars, and other multimodal activities.

Boulevard

Portions of the corridor at the east and west ends function like a boulevard, providing users with smooth flowing entry and exit points to/from the city. Property access is limited in these segments.

Commercial

The Commercial zone around the Westgate area serves all modes and trip types. The roadway in this area accommodates business access and transit stops, emphasizing multimodal interaction and gateway elements. Frequent pedestrian movements require safe crossings of SR 104 and side streets.

Neighborhood Connections

The segment from around 95th Ave W and 240th St SW emphasizes connections to neighborhoods on both sides of SR 104. The corridor in this area serves all trip types but focuses on balancing access needs from side streets and driveways with safety for bicycle, pedestrian and auto trips.



LAND USE

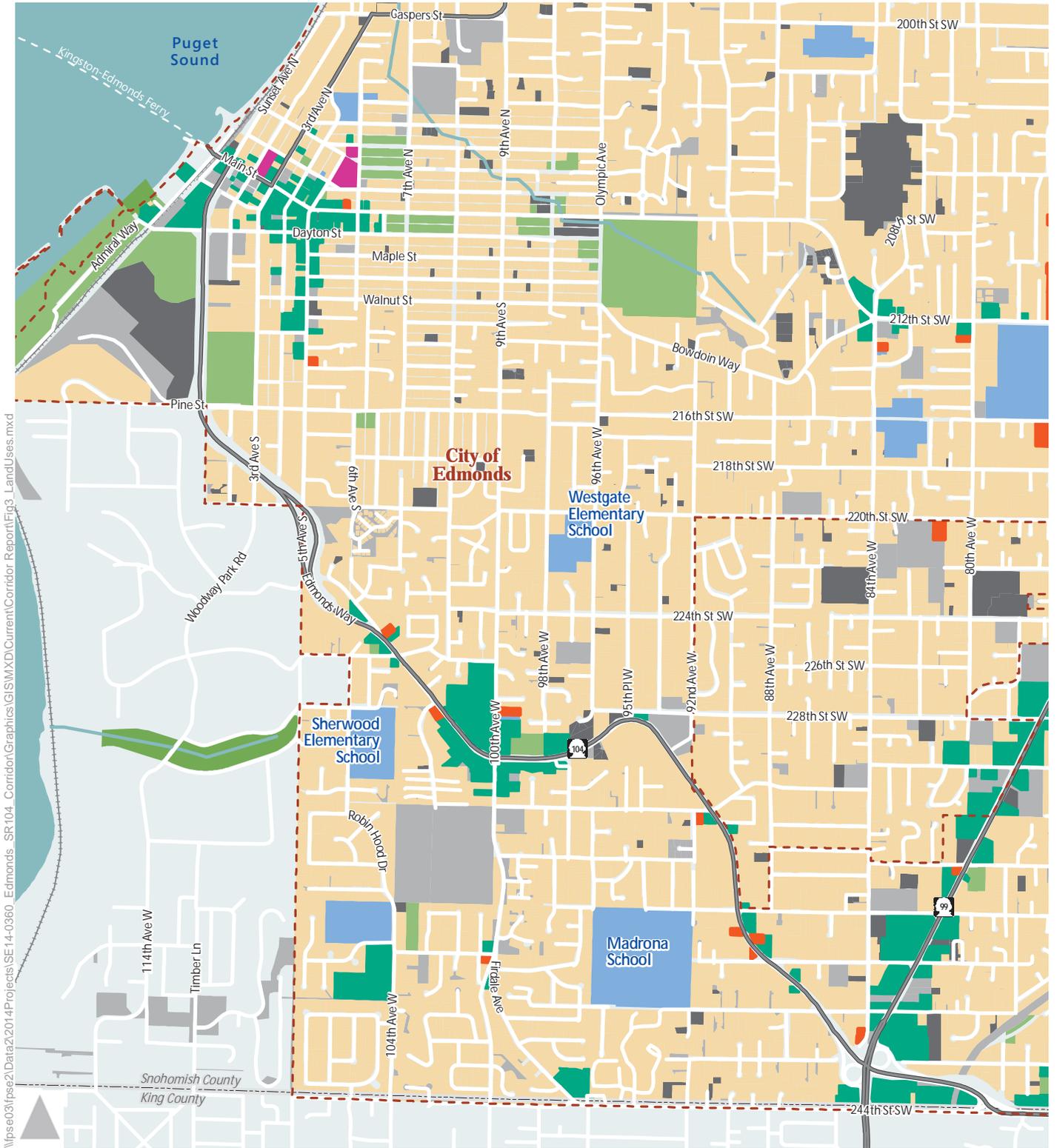
Land use in the vicinity of SR 104 consists largely of single and multi-family homes combined with commercial development focused in downtown Edmonds, Westgate, and SR 99. To the west of SR 104 are two elementary schools and one K-8 school, as shown in **Figure 3**. At the west end of the corridor, SR 104 is adjacent to Edmonds City Park and Edmonds Marsh. Along the waterfront, SR 104 provides convenient access to Brackett’s Landing and Marina Beach Park.

Table 1 summarizes existing land use and the amount of growth expected to occur by 2035 both citywide and within approximately a one-half mile vicinity of SR 104. By 2035, almost 40 percent of the city’s households and 50 percent of the employment will be located within the general SR 104 corridor.

TABLE 1. EXISTING AND FUTURE LAND USE

Area	Existing		2035		Total Growth		Percentage Growth	
	HH	EMP	HH	EMP	HH	EMP	HH	EMP
Corridor Vicinity	6,700	4,600	8,350	5,750	1,650	1,150	25%	25%
Edmonds Citywide	19,300	10,000	22,650	12,450	3,350	2,450	17%	24%

Notes: HH = Households; EMP = Employment
Sources: City of Edmonds



- | | | |
|------------|------------|-------------------|
| Other | School | Residential |
| Commercial | Medical | Vacant/Open Space |
| Recreation | Government | |

Figure 3
Land Uses



PHYSICAL CONDITIONS

The guiding principles emphasize addressing safety needs for all travel modes, while maintaining the corridor's identity. This section describes the physical conditions that frame many of the corridor's needs. Many of the safety concerns along SR 104 relate to the physical conditions along the corridor. The following section describes:

- Roadway cross-section
- Traffic Control
- Topography
- Sight Distance
- Drainage
- Illumination

ROADWAY CROSS-SECTION

SR 104 is characterized as a four to five-lane roadway along its length. **Figure 4** shows typical sections for the existing roadway. The five-lane sections typify SR 104 where left turns are required. A four-lane section is provided where SR 104 passes through the SR 99 interchange and approaching downtown Edmonds. The roadway also provides ferry vehicle queuing north of Pine Street to the Edmonds Ferry Terminal.

Most of the corridor has a right-of-way width of 80 feet. However, the right-of-way is not readily usable in some sections due to slopes, vegetation, and other impediments. Bus pull-outs are provided at several bus stops along SR 104.

WHAT WE HEARD FROM THE COMMUNITY

- Improving safety in the corridor is very important; especially for bicycles and pedestrians
- Any improvements should be context sensitive of the blend between neighborhoods and commercial areas
- Traveling the corridor can be difficult during rush hours and during ferry loading/unloading, but there is minimal interest in widening the corridor for more automobile lanes.
- Providing good access to and from Westgate is important

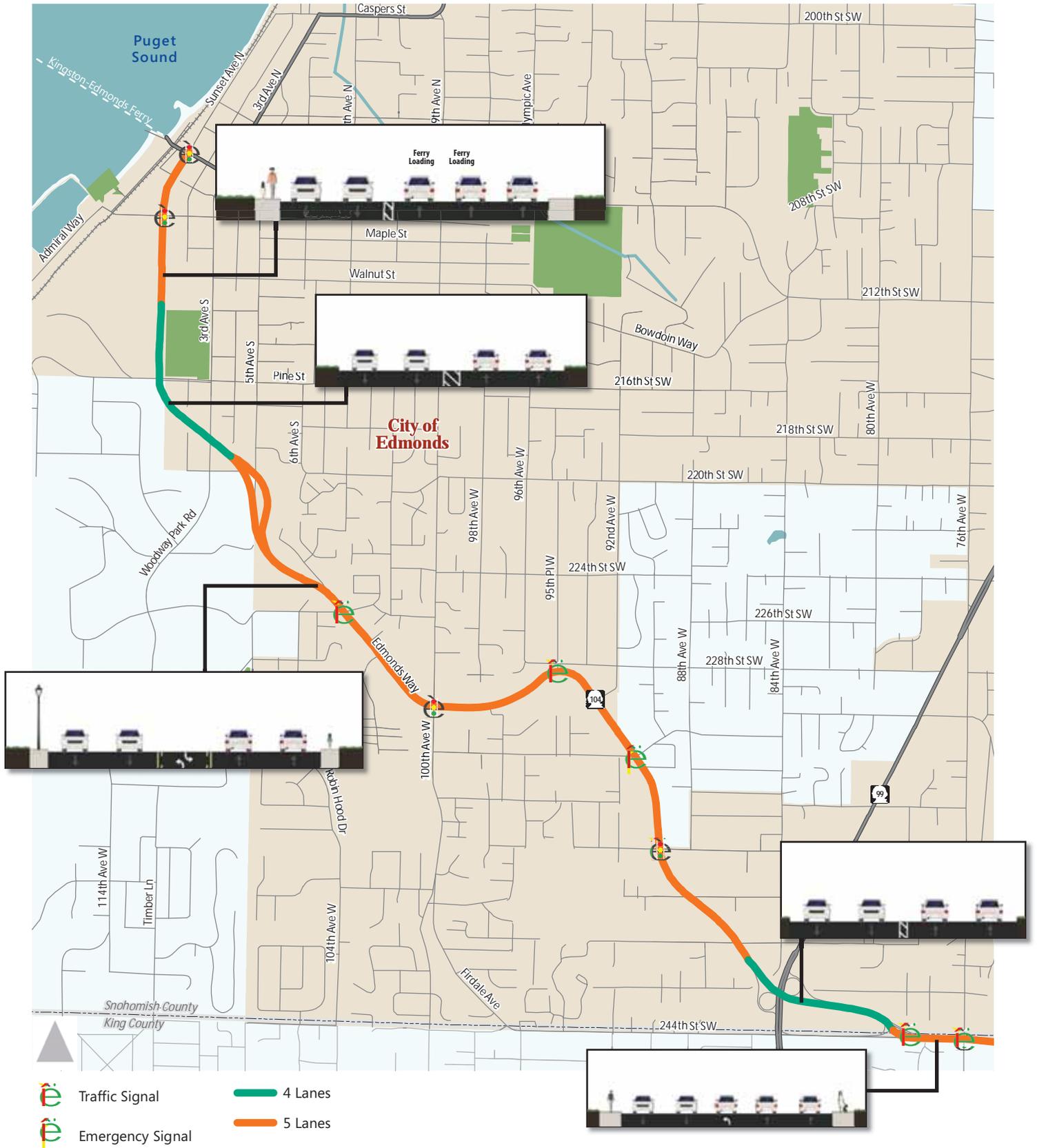


Figure 4
Roadway Cross Sections and Traffic Control



TRAFFIC CONTROL

Along the four-mile SR 104 corridor, eight traffic signals are in operation, as well as an emergency signal. The signals locations are as follows (see Figure 4):

Traffic Signals:

- Main St
- Dayton St
- 226th St SW
- 100th Ave W
- 95th PI W
- 236th St SW
- 244th St SW (2 SB)
- 76th Ave W

Emergency Signal:

- 232nd St SW



The emergency signal has a yellow light for traffic along SR 104. In the event of an emergency response, vehicles along SR 104 will then be given a red light. At 244th St SW, there are two coordinated signals for southbound traffic; northbound vehicles only experience a signal if turning onto 244th St SW from SR 104.

Northbound traffic boarding the ferry has a designated holding area. This begins at the SR 104 and 5th Avenue W split, and continues along the duration of the corridor. Signs along the corridor notify drivers of the ferry loading and warn drivers of other vehicles making a right turn off of SR 104 and across the ferry loading lanes. During ferry loading/unloading, traffic is controlled manually to enable continuous movements to/from the boat.

SIGHT DISTANCE

The SR 104 Corridor is characterized by curving road segments with limited sight distance in some sections. Motorists need adequate sight distance or visibility for turning onto and from SR 104. The combination of frequent driveway and side street approaches to SR 104, along with some tight roadway curves, creates several areas with challenging or severely limited sight distance.

Figure 5 shows those areas with sight distance issues for side streets/driveways (i.e. drivers wanting to turn onto SR 104) and for SR 104 itself (i.e. drivers wanting to turn left from SR 104 into a side street or driveway). These locations of limited sight distance are correlated with the locations of collisions, as described in a later section.

An example of sight distance issues along SR 104 can be seen going northbound when approaching Pine St. At higher speeds, vehicles may be unable to react in time to a right-turning vehicle out of Pine Street. The recent speed limit reduction has helped improve access at this location.

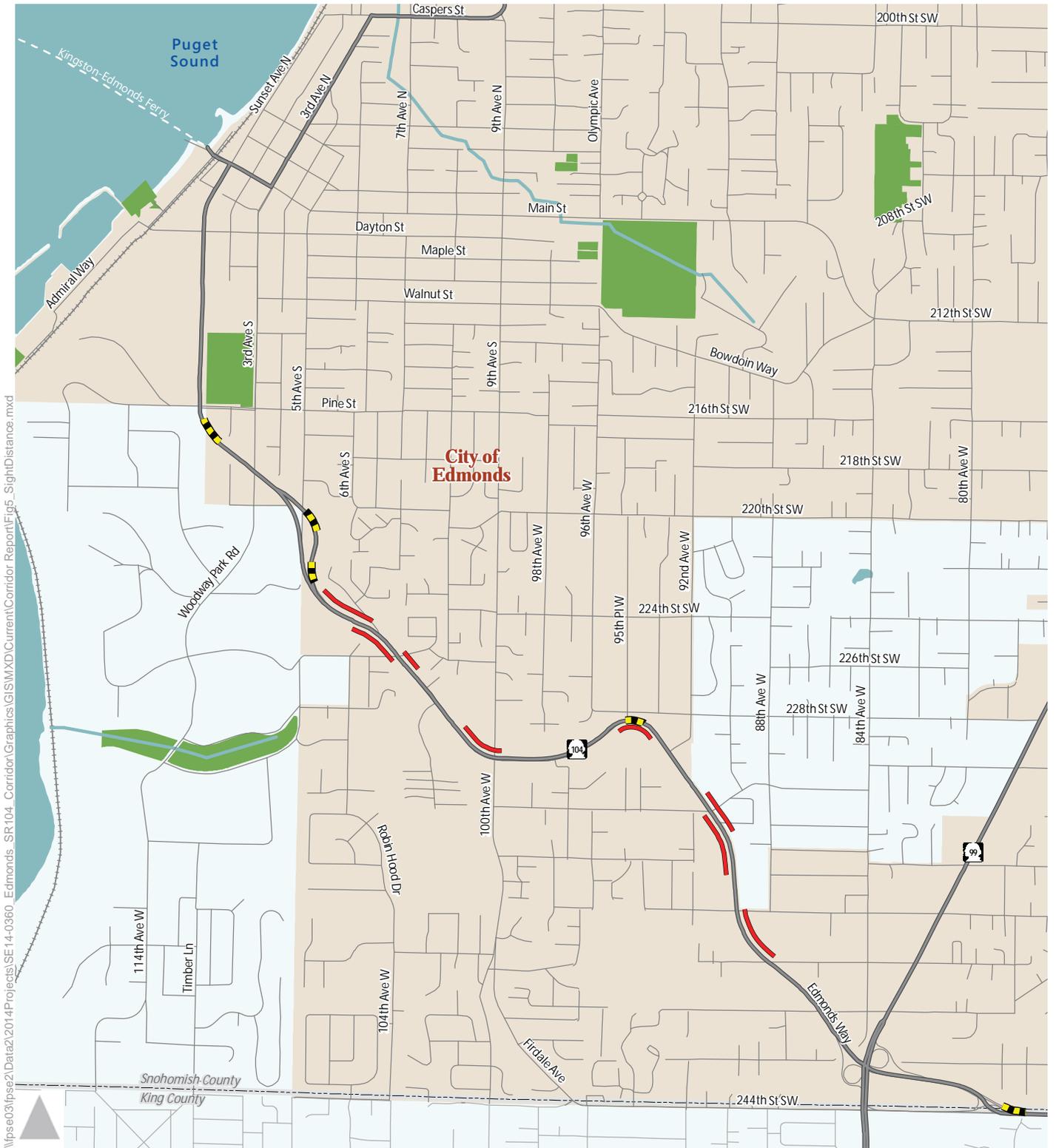
Rockeries and overgrown brush encroach on the right of way and restrict sight distance for cars attempting to turn onto SR 104, as shown in the image on 232nd Street SW.

SR 104 Corridor Functional Classification

SR 104 is one of two main east-west corridors connecting downtown Edmonds with SR 99 and I-5. It also provides a direct route to the Ferry terminal. The City of Edmonds and WSDOT classify SR 104 as a principal arterial.

SR 104 connects to one other principal arterial – the north/south running SR 99. Minor arterials intersect SR 104 at 5th Ave S, 100th Ave W, 228th St SW, 238th St SW, and 76th Ave W. These arterials feed Edmonds traffic from local and collector streets onto the principal arterial routes.





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Sight Distance Issues

-  Along SR 104
-  From Side Street / Driveway



Figure 5
Sight Distance Issues

ACCESS MANAGEMENT

Numerous commercial and private driveways along the corridor complicate the sight distance and traffic safety issues. WSDOT requires strict access management for new development, but the existing access patterns result in driveways that are hidden due to vegetation, topography or geometric conditions.

Although there is limited access management, some locations have features in place. In the

eastbound direction at 100th Ave W, a C-curb prevents vehicles from attempting an early left turn into the QFC shopping center. The C-curb also prevents the cross traffic from coming out of the Bartell's and going straight across to QFC.



LIGHTING

Lighting is a direct contributor to safety. Existing light levels were determined using lighting analysis that examined *average light levels* (i.e. average light visible per square foot on the roadway) and what is called the *uniformity ratio*, the average light level to the darkest areas on the roadway. The analysis indicates that below-standard light levels on SR 104 exist at both westbound and eastbound approaches to 97th Ave. W and 236th St. SW, as well as mid corridor between 232nd Pl. SW and 236th St. SW. The remainder of the corridor appears to meet the standards in the current configuration, but may warrant upgrades with proposed improvements, such as intersection improvements to 100th Ave. W (Westgate area). Refer to **Appendix A** for a lighting diagram of the corridor.

TRANSPORTATION OPERATIONS

The guiding principles emphasize safety for all modes. Understanding the transportation operations is important to the safety issues. This section describes existing transportation operations along SR 104 for each supported transportation mode: automobile, bicycle, pedestrians, and transit. Traffic flow, corridor safety, speed, and parking are discussed as they relate to these four modes of travel.

TRAFFIC FLOW

Peak hour and average weekday daily traffic (AWDT) counts were collected at three locations along SR 104 in October 2014 (**Figure 6**). Counts were performed for a 24-hour period on Tuesday, Wednesday, and Thursday, days which represent the most typical weekday traffic conditions. Daily traffic totals for the three days were averaged to obtain the final AWDT values.

The corridor carries from 11,000 daily vehicles (mostly stopped or moving slowly) at the Pine Street intersection to more than 20,000 daily vehicles travelling at 40 mph at the east end of the corridor.

AM peak hour counts range from 700 vehicles at the Pine Street intersection up to 1,300 vehicles at the Westgate area near 100th Ave W. PM peak hour counts range from 900 vehicles at the west end of the corridor to 1,600 vehicles between Westgate and the east end of the corridor.

Afternoon commute traffic on SR 104 is heaviest in the northbound direction, while morning commute patterns show similar volumes in both directions. As with the daily counts, AM and PM peak hour demand is heaviest near Westgate and the east end of the corridor.

To better understand how peak hour travel patterns impact corridor traffic conditions, additional traffic counts were collected at eight intersections along SR 104:

- 100th Avenue W
- 238th Street
- Meridian Avenue
- Sunset Avenue
- Dayton Street
- 226th Street
- 95th Place W
- 236th Street SW

FERRY TRAFFIC EFFECTS

Ferry loading and unloading can cause spikes in vehicle volumes during a short timeframe. Ferries leave Edmonds approximately every 45 minutes during peak periods, and with each ferry holding up to 188 vehicles, this surge of volume can affect the corridor.

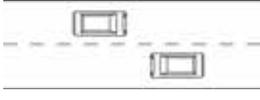
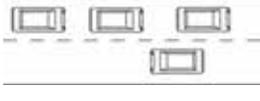
INTERSECTION TRAFFIC LEVEL OF SERVICE

Level of Service (LOS) is the primary measurement used to determine the operating quality of a roadway segment or intersection. The quality of traffic conditions is graded into one of six LOS designations: A, B, C, D, E, or F. **Table 2** presents typical characteristics of the different LOS designations. LOS A and B represent the fewest traffic slow-downs, and LOS C and D represent intermediate traffic congestion. LOS E indicates that traffic conditions are at or approaching urban congestion; and LOS F indicates that traffic volumes are at a high level of congestion and unstable traffic flow.

Level of Service Criteria

Methods described in the Highway Capacity Manual (*Transportation Research Board 2010*) were used to calculate the LOS for signalized and stop-controlled intersections. **Table 3** summarizes the LOS criteria for signalized and stop-controlled intersections. LOS for intersections is determined by the average amount of delay experienced by vehicles at the intersection. For stop-controlled intersections, LOS depends on the average delay experienced by drivers on the stop-controlled approaches. Thus, for two-way or T-intersections, LOS is based on the average delay experienced by vehicles entering the intersection on the minor (stop-controlled) approaches. For all-way stop controlled intersections, LOS is determined by the average delay for all movements through the intersection. The LOS criteria for stop-controlled intersections have different threshold values than those for signalized intersections, primarily because drivers expect different levels of performance from distinct types of transportation facilities. In general, stop-controlled intersections are expected to carry lower volumes of traffic than signalized intersections. Thus, for the same LOS, a lower level of delay is acceptable at stop-controlled intersections than it is for signalized intersections.

TABLE 2. TYPICAL ROADWAY LEVEL OF SERVICE CHARACTERISTICS

Level of Service	Characteristic Traffic Flow
<p>A</p> 	<p>Free flow – Describes a condition of free flow with low volumes and high speeds. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. Stopped delay at intersections is minimal.</p>
<p>B</p> 	<p>Stable flow – Represents reasonable unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tensions.</p>
<p>C</p> 	<p>Stable flow – In the range of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. The selection of speed is now significantly affected by interactions with others in the traffic stream, and maneuvering within the traffic stream required substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.</p>
<p>D</p> 	<p>Stable flow – Represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience- Small increases in traffic flow will generally cause operational problems at this level.</p>
<p>E</p> 	<p>Unstable flow – Represents operating conditions at or near the maximum capacity level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor disturbances within the traffic stream will cause breakdowns</p>
<p>F</p> 	<p>Forced flow – Describes forced or breakdown flow, where volumes are above theoretical capacity. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations, and operations within the queue are characterized by stop-and-go waves that are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, and then be required to stop in a cyclical fashion.</p>

Source: Transportation Research Board 2010

TABLE 3. LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

LOS Designation	Average Delay per Vehicle (seconds/vehicle)	
	Signalized Intersections	Stop-Controlled Intersections
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Transportation Research Board 2010

Figure 7 shows the existing and 2035 forecasted LOS values along SR 104. All intersections along the corridor will experience vehicular growth between 2015 and 2035. The average intersection volumes are expected to grow at an annual rate of 1.5%.

Table 4 summarizes the existing and future traffic operations at eight intersections along SR 104, listed from downtown Edmonds at Main Street to the intersection of SR 104 and 76th Ave W.

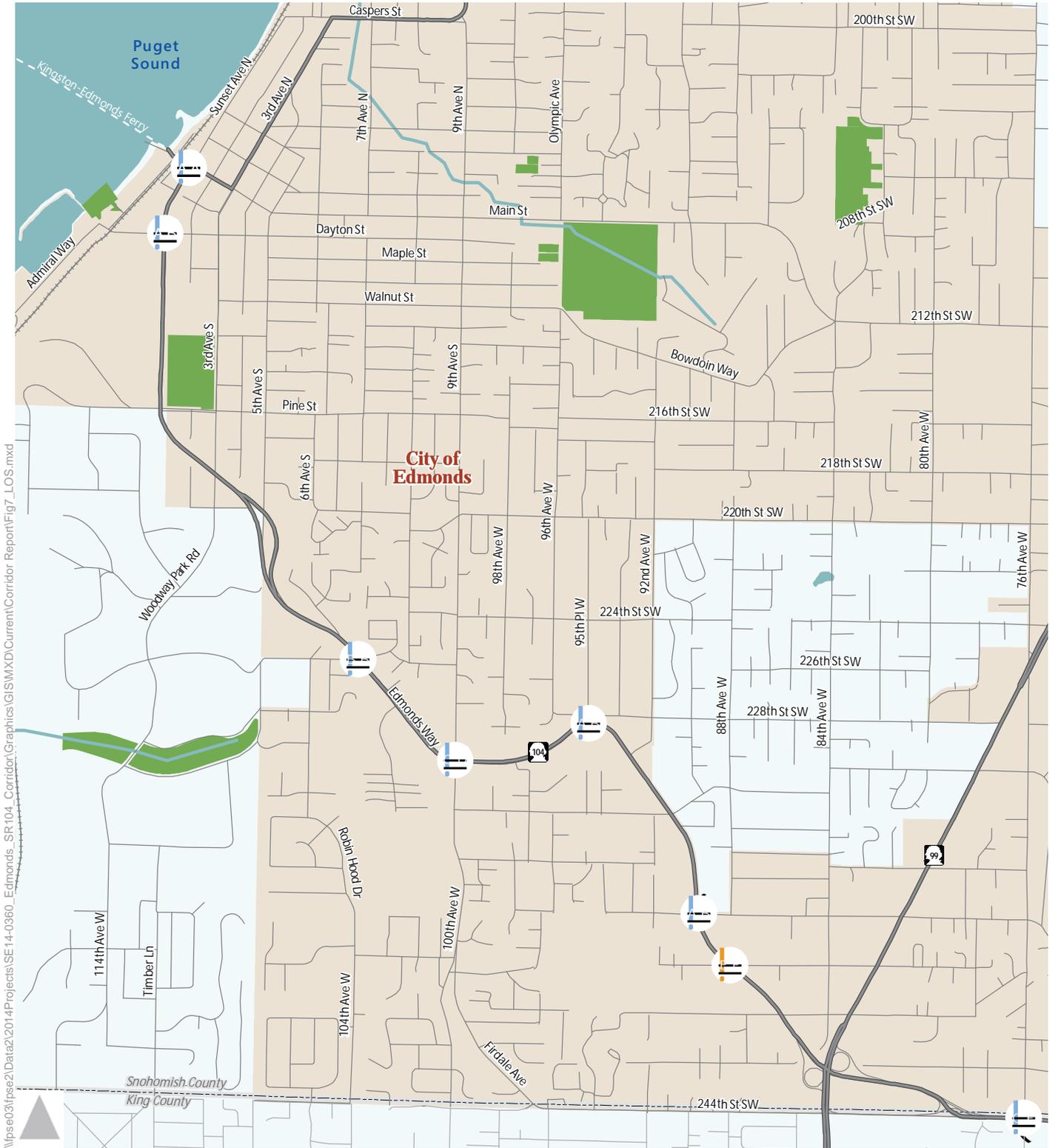
The traffic operations at the Main St and Dayton St signalized intersections are strongly affected by ferry operations. While these intersections operate at LOS A during typical PM peak hour conditions, delays build temporarily during ferry loading and unloading.

The signalized intersection at 100th Avenue W operates at LOS C, increasing to LOS D in 2035. Queues occasionally exceed the established left turn pockets on both northbound and southbound approaches.

The intersection at 238th St. SW is a side-street stop controlled intersection. This intersection sees substantial delay on the eastbound approach (LOS E), despite having a very low traffic volume. This delay will increase substantially by 2035 due to growing volumes on SR 104 and fewer gaps available for traffic entering from 238th St.

SR 104 and 76th Ave W is technically a Shoreline intersection, but it affects the overall traffic operations along SR 104. Currently it operates at LOS C, but it is expected to degrade to LOS E by 2035. Heavy westbound left turn volumes exceed the turn lane storage and affect through traffic conditions on SR 104.

A table summarizing the specific intersection results is provided in **Appendix D**.



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-  Unsignalized Intersection
-  Signalized Intersection

PM Peak Hour
Level of Service (LOS) Designation

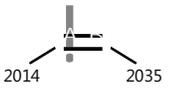


Figure 7
Intersection Level of Service - PM Peak Hour

SAFETY

Along SR 104, the existing roadway geometry, multiple driveway access points, relatively high vehicular volumes and limited sight distance present potential safety concerns. Collision data for vehicles were collected to determine where design or operational concerns translate into safety deficiencies.

Collision data were obtained from the City of Edmonds over a period of five years (January 2009 – September 2014). There were a total of 324 collisions, for an average of 68 collisions per year. Reports provided details about individual collisions, including type, probable cause, severity, and time-of-day (summarized in the text box).

Vehicle collision rates at study intersections can be seen in **Table 4**. While the total number of collisions is larger than those on most other Edmonds roadways, this can be attributed to the larger volumes of vehicles on the corridor. The collision rates are typical of urban arterials and do not indicate a substantial safety problem. There are no recorded crashes that led to a fatality, although 33% of the collisions resulted in injuries. Despite there not being many reported pedestrian or bicycle collisions, exposure is high due to speeds and lack of separation from motor vehicles.

COLLISION STATISTICS (JANUARY 2009 – SEPTEMBER 2014)

- Magnitude
 - SR 104 and 100th Ave W had the largest collision rate.
 - The segment with the most collisions is between 5th Ave S & east of 100th Ave W
 - No segment or intersection had high collision rates
- Severity
 - There were no reported casualties during the timeframe
 - 33% of the 324 total crashes led to an injury
- The most cited collision type was rear end.

TABLE 4. TOTAL COLLISIONS AND COLLISION RATES

Location	Collisions	Collisions/year	Collision Rate (PMEV)
Edmonds Way (SR 104) and 100th Avenue W	90	13.24	1.18
238th Street SW and Edmonds Way (SR 104)	7	1.03	0.14
244th Street SW (SR 104) and 76th Avenue W	18	2.65	0.18
SR 104 and Main Street	19	2.79	1.03
SR 104 and Dayton Street	21	3.09	0.62
SR 104 and 226 th Street SW	9	1.32	0.18
SR 104 and 95 th Place W	33	4.85	0.66
SR 104 and 236 th Street SW	16	2.35	0.31

For analysis purposes, SR 104 was split into 5 segments, with each segment showing various collision statistics. (See **Figure 8.**) In general, most collisions that occurred on SR 104 were from rear end collisions, caused by abrupt stops or trailing vehicle unawareness. Sight distance issues were referenced multiple times. The emergency signal on 232nd St SW, which is constantly flashing yellow, led to confusion among some drivers. Drivers unaccustomed to the signal would decelerate, leading to trailing vehicles being surprised and an increase in rear end collisions.

SPEED

Speed is an important factor in the safety and perception of comfort along SR 104. Speed studies were conducted at three locations along SR 104 in both the northbound and southbound directions. **Figure 9** and **Table 5** summarize the posted speed limit and observed speed levels at these locations. Two values are shown:

- 85th Percentile Speed – 85 percent of motorists travel below this speed, and 15 percent of motorists exceed this speed. Typically, the 85th percentile speed is used to establish posted speed limits.
- Percent of drivers exceeding the speed limit
- Times of day in which over 10% of people exceeded the speed limit by at least 10 mph.

TABLE 5. OBSERVED CORRIDOR SPEEDS

Location on SR 104 (Refer to Figure 8)	Posted Speed Limit (mph)	85 th Percentile Speed (mph)	
		Southbound	Northbound
North	40	47	48
Central	35	37	40
South	40	46	47

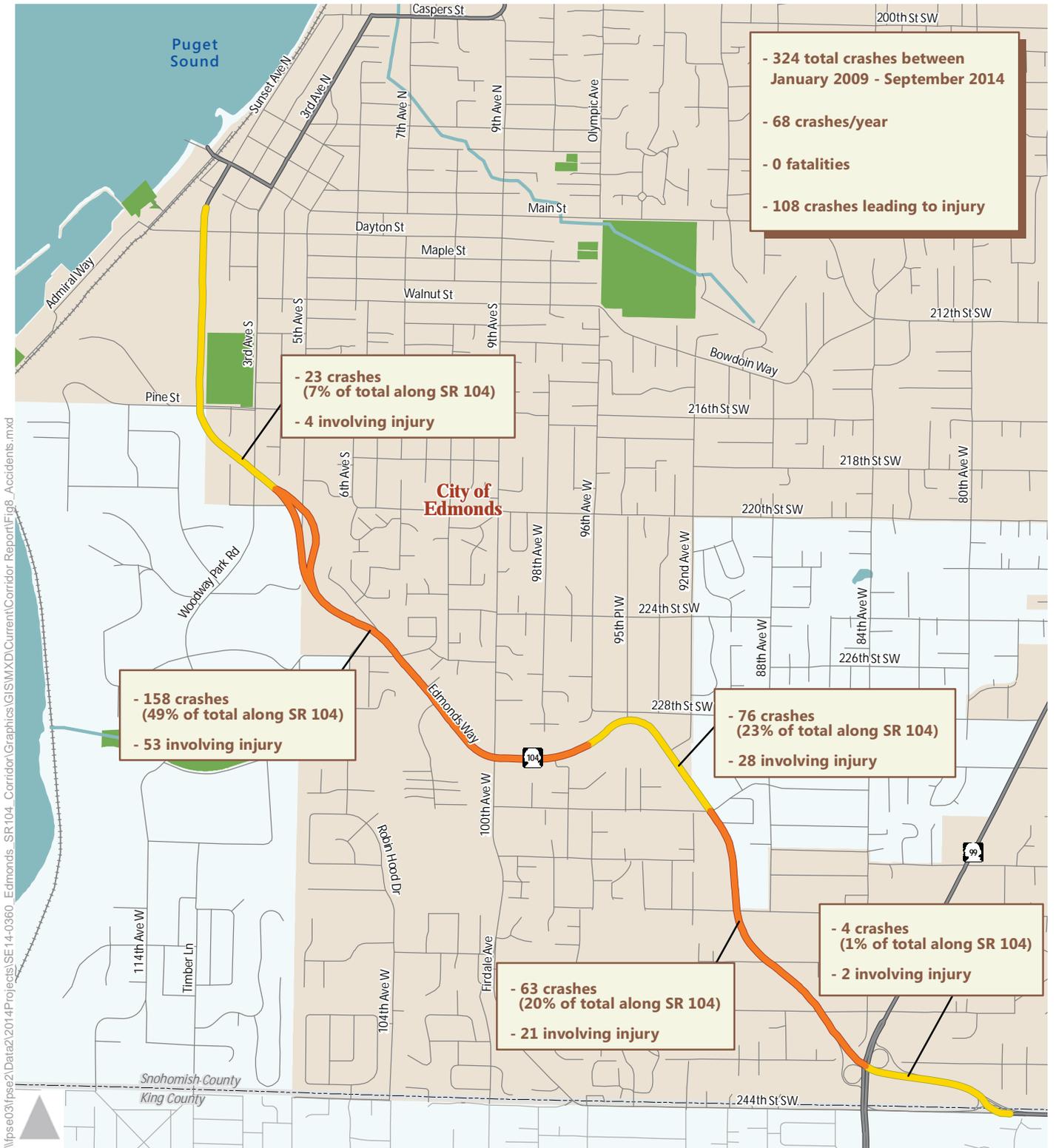
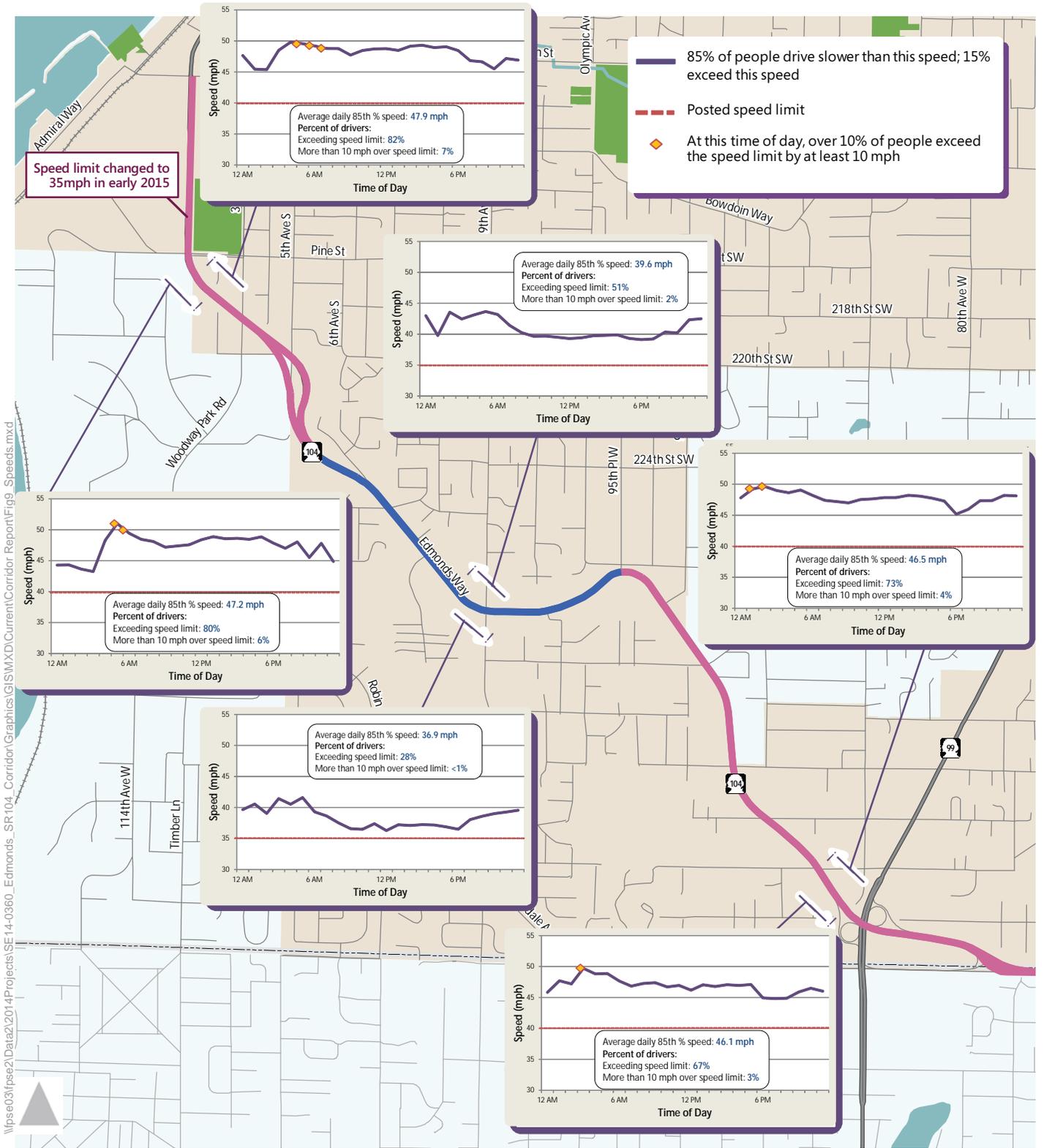


Figure 8
Crashes Along SR 104 (January 2009 - September 2014)



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Figure 9
Average Weekday Vehicle Speeds Along SR 104

The north section of the corridor (i.e., 5th Ave S to Dayton Ave) experienced a speed limit drop from 40 mph to 35 mph in early 2015. The speed data in Table 5 were collected before the speed limit change, and all values and comparisons reflect the 40 mph speed limit in place during the data collection.

Results show that the majority of drivers exceed the posted speed limit throughout the study area. Speeding is more prevalent in the north and south sections, while speeds are closer to the speed limit in the commercial center section. For example, in the northern section, over 80 percent of drivers exceed the posted speed. While speeding occurs throughout the corridor, the amount of extreme speeding is relatively low. Time of day data associated with the observations indicate that most extreme speeding occurs at night, especially in the early hours before the AM peak occurs.

PEDESTRIANS AND BICYCLISTS

This section describes the pedestrian and bicycle facilities in the SR 104 study area.

Pedestrians

Pedestrian facilities include sidewalks and crosswalks. Along SR 104, sidewalks are provided on at least one side of the road for most of the study area. The lone exception occurs to the south of 5th Ave W, where a pedestrian path is used off of the roadway instead. **Figure 10** illustrates the existing sidewalks and walkways within this portion of the city. The figure shows that the sidewalk system is most complete inside the core area of downtown and the ferry terminal. Outside of this area, sidewalks are primarily located along roads classified as collectors or arterials. Raised and striped walkways are generally associated with schools, and provide safe walking routes.

Marked crosswalks are provided at the following locations:

Traffic Signals

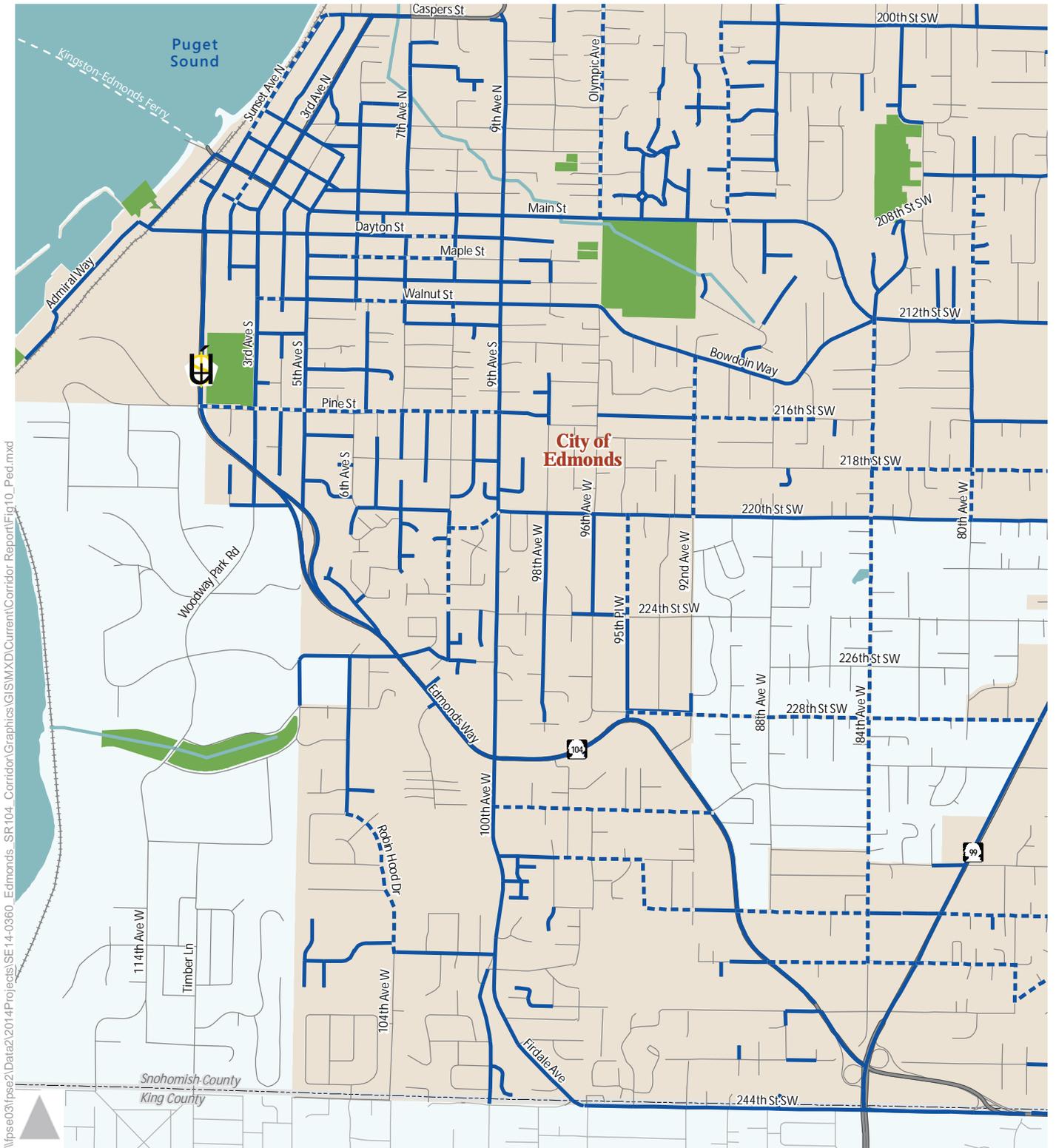
- Main St,
- Dayton St.
- 226th St SW
- 100th Ave W
- 95th Pl W
- 236th St SW
- 76th Ave W

Midblock Crossings

- North of Pine Street (new HAWK signal)
- 5th Ave S (SB only)

Pedestrian push buttons are located at all signalized intersections.

The federal Americans with Disabilities Act (ADA) was passed in 1990 and amended in 2008. ADA requires jurisdictions to provide accessible sidewalks primarily through the installation of ADA-compliant sidewalk ramps. The design requirements address various areas of concern such as curb alignment with crosswalks, narrower sidewalk width, obstacles such as utility poles, placement of the sidewalk adjacent to the curb, or the slope of the ramps. Most of the SR 104 sidewalk ramps were constructed before ADA requirements. As pedestrian improvements have been made along the corridor, the City has upgraded sidewalk ramps or installed new ones in accordance with current standards.



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-  Existing Paved Walkway
-  Proposed Walkway Project
-  Pedestrian Crossing Treatment

Figure 10
Pedestrian Facilities



Bicycles

SR 104 is not a designated bicycle route and has no bicycle lanes existing along the travelled way. However, Edmonds is a well-connected city, and various bicycle facilities are available parallel to, and connecting with the corridor.

Figure 11 shows existing and proposed bicycle facilities within this portion of the city. These facilities include bicycle routes, bicycle lanes, trails, sharrows and bicycle parking facilities. The bicycle projects include bicycle lanes or bicycle routes that can be added as part of future roadway improvement projects. The projects are concentrated around two major efforts: creating east-west bicycle connections between downtown Edmonds and the Interurban Trail, and creating north-south bicycle connections between the northern and southern portions of Edmonds.



While SR 104 itself is not a designated bicycle route, the following roadways provide existing or proposed convenient and safe bicycle travel within the study area;

East-West Travel

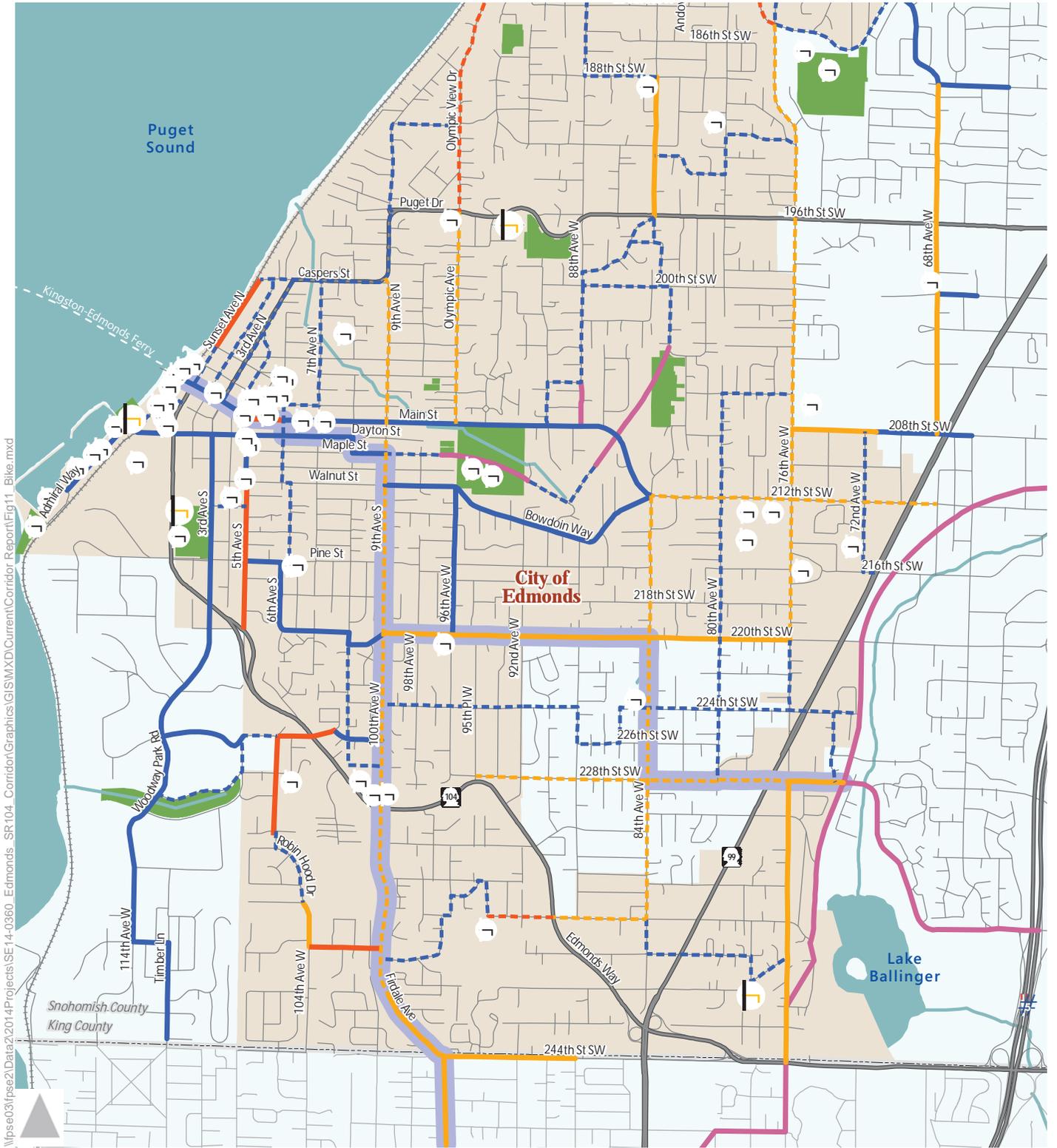
- Main St/Dayton St
- 220th St SW
- 226th St SW
- 228th St SW
- 244th St SW
- 238th/236th St SW

North-South Travel

- 3rd Ave S/Woodway Park RD
- 5th Ave S
- 9th Ave S/100th Ave W
- 84th Ave W

Bicycle parking is available throughout the city. The areas with the most parking options are along the beaches, in downtown, and in the Westgate area.

There are also easy connections for cyclists to ferries, Sound Transit's Sounder service, and Community Transit. Bicycles are allowed on all of these systems. WSF provides a reduced fare for bicycles, Sound Transit provides bicycle racks, and all Community Transit vehicles have bicycle racks.



\\pse03\pse2\Projects\SE14-0360 Edmonds SR104 Corridor\Graphics\GIS\MXD\Current\Corridor_Report\Fig11 Bike.mxd

- | | | | | | |
|--|------------------------------|--|--------------|--|------------------------|
| | Proposed Bike Parking | | Bike Lane | | Existing |
| | Existing Bike Parking/Locker | | Bike Route | | Proposed |
| | | | Trail/Path | | Major Bicycle Corridor |
| | | | Bike Sharrow | | |



Figure 11
Bicycle Facilities

TRANSIT

EXISTING

Community Transit provides public transit service along portions of SR 104. **Figure 12** shows the two bus routes (130 and 416) that serve the corridor. Details of bus routes are described below:

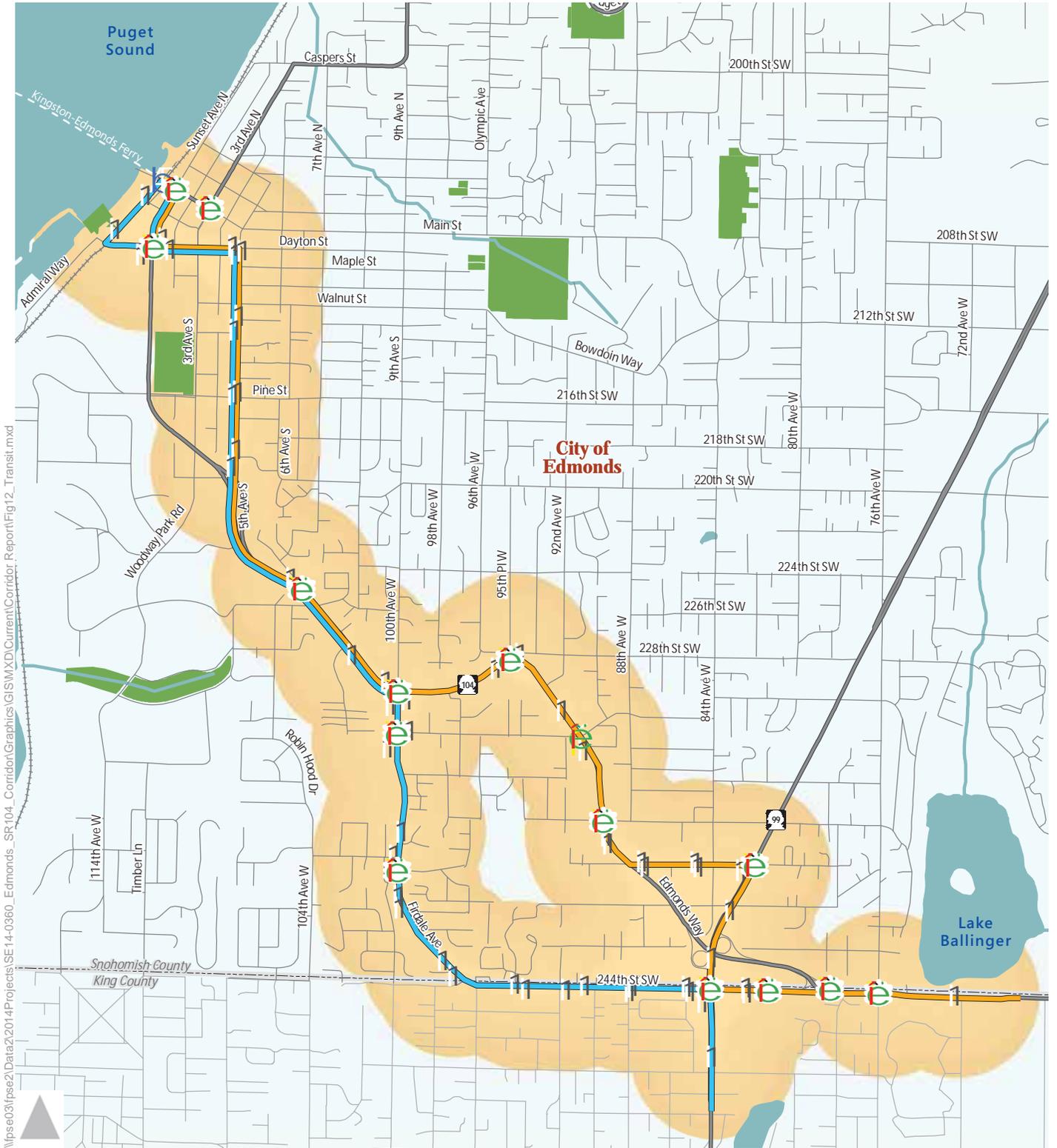
Route 130 – Route 130 connects Edmonds Station to Aurora Village Transit Center in Shoreline, Mountlake Terrace Transit Center and Lynnwood Transit Center. The route serves downtown Edmonds via W. Dayton St, then travels on 5th Avenue S to reach SR 104. There are only two stops each direction on SR 104 before the bus turns south onto 100th Avenue through the Firdale area. Route 130 operates weekdays at 30 minute headways until 6pm and evenings, Saturdays/Sundays/Holidays with 60-minute headways. Route 130 is the only local route that continues to serve the west side of the railroad tracks with stops at Brackett's Landing Park and the South County Center.

Route 416 – Route 416 is an express route between Edmonds and downtown Seattle. It serves SR 104 between 5th Avenue S and 238th St SW, where it turns off of SR 104 to approach the SWIFT Bus Rapid Transit (BRT) station on SR 99. Route 416 operates five runs on weekdays southbound between 5:45 am – 8:00 AM and northbound between 3:30 pm – 6:00 PM.

Accessibility to fixed route transit is considered to be ideal when transit stops are located within 0.25 mile of residents. **Figure 12** shows that residents living along the SR 104 corridor have reasonably good walking proximity to bus stops. As discussed previously, however, there are limited safe opportunities to cross SR 104 for access to/from bus stops.

Sound Transit provides four (4) round trips from Edmonds Station on the Sounder North commuter rail line. These trips travel south from Everett in the AM peak period and return north in the PM peak period. King Street Station (Downtown Seattle) is the only destination available from Edmonds. In Seattle, commuters can connect with Link Light Rail and other transit routes. Edmonds Station is also served by Amtrak Cascades and Empire Builder trains traveling to Vancouver, BC and Chicago, IL respectively.

King County Metro operates peak hour express and local routes in the study area south of the Snohomish-King County line. The Rapid Ride E line BRT provides frequent direct service from Aurora Village Transit Center where it connects with Swift BRT throughout the Hwy 99 corridor to downtown Seattle.



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- Community Transit Commuter Route (416)
- Community Transit Local Route (130)
- 1** Bus Stop
- E Traffic Signal
- E Emergency Signal
- b Sounder Station / Park and Ride Lot
- 1/4-Mile Bus Stop Zone



Figure 12
Existing Transit Service

FUTURE

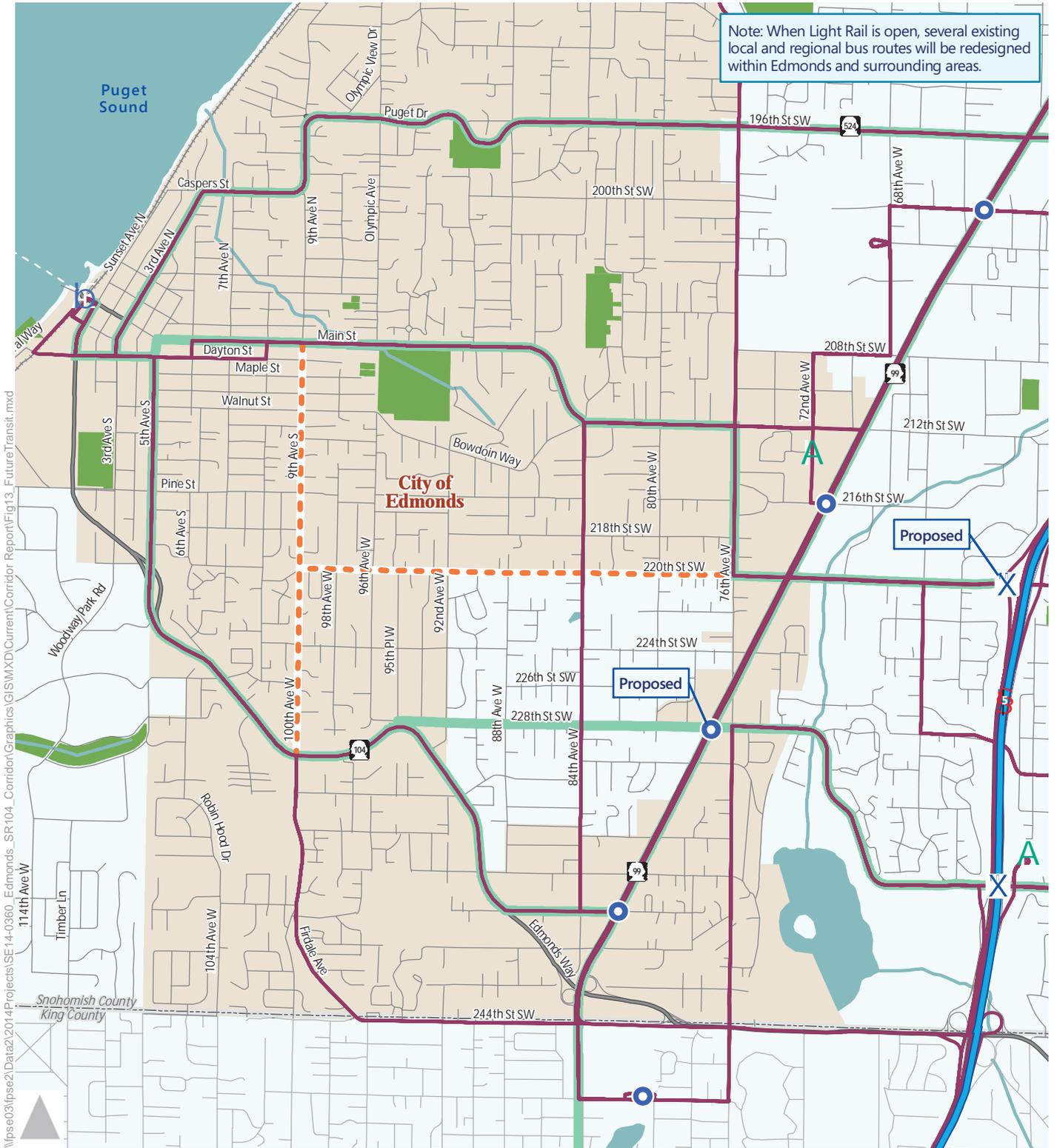
Figure 13 depicts a future transit system with potential priority transit corridors shown in green. These priority corridors would emphasize good daily transit service and bus stop amenities to make transit attractive. With the expected opening of Link Light Rail to Lynnwood during the planning horizon, it is likely that several Community Transit bus routes will be redesigned within Edmonds and surrounding areas to integrate with light rail. SR 104 would provide a major transit corridor to tie into Link and SWIFT BRT. As vehicle capacity on the Ferry is constrained, the walk-on transit passengers will need to increase to meet this rising demand for travel alternatives.

The future transit plan also recommends new transit service along 100th Ave W/9th Ave S between Main Street and SR 104. This local bus service would provide enhanced accessibility to Westgate and provide connections to the priority transit corridor bus services. Any service changes would need to be closely coordinated with Community Transit.

In addition, the city should coordinate with Sound Transit on improvements that will attract more riders to Sounder north train service and access to the SR 104 corridor. Edmonds should seek reverse peak-direction trips that could bring travelers to town in the AM peak period and return them to Seattle and points south in the PM peak period.

Bus Stops along SR 104

Community Transit currently uses the bus pull-outs provided at several locations along SR 104. However, the agency prefers having buses stop in the travel lane to avoid delays reentering the traffic stream. Currently, the traffic volumes along SR 104 do not create many delays for buses, and the volume of buses on the corridor is fairly low. This could change in the future depending on the service provided along the priority transit corridors and access to Sound Transit Link light rail. At that time, the city could consider removing the bus pull-outs tied to other SR 104 enhancements.



W:\pse03\pse2\2014\Projects\SE14-0360_Edmonds_SR104_Corridor\Graphics\GIS\MXD\Current\Corridor_Report\Fig13_FutureTransit.mxd

- Existing Bus Route
- Proposed Link Light Rail
- Priority Transit Corridor
- - - New Transit Service Options
- Swift BRT
- Swift BRT Stop
- A Park and Ride Lot
- b Sounder Train Station
- X Link Light Rail Station



Figure 13
Future Priority Transit Corridors

WASHINGTON STATE FERRIES

The Edmonds-Kingston ferry route connects the northern portion of the Kitsap Peninsula and the Olympic Peninsula with northern King and southern Snohomish Counties. The route is 4.5 nautical miles long, and takes approximately 30 minutes to traverse. The Edmonds-Kingston route operates seven days per week year round, with average headways ranging between 35 and 70 minutes.

In 2013, the Edmonds-Kingston route carried 3.9 million people, at an average of 12,200 passengers per day. This is slightly less than the 4.3 million people the route carried in 2006. The annual Washington State Ferries Traffic Statistics Report indicates that in-vehicle boardings were the most prevalent, with about 86 percent of passengers boarding in this manner on the average weekday. Walk-on passengers constituted 14 percent of all passengers on an average weekday.

PARKING

Parking along the SR 104 corridor is limited to private off-street lots. There is no on-street parking allowed on SR 104 itself. The largest concentration of parking is within the Westgate commercial area, with over 600 off-street spaces serving a variety of retail uses. While certain parking areas immediately adjacent to the QFC and PCC supermarkets can be busy for short periods of the day, there is ample parking capacity to meet the daily parking demands within the Westgate area. Parking supply and demand will be closely monitored by the city as Westgate redevelops over time.

RECOMMENDED PLAN

The SR 104 Corridor Plan contains recommended projects that meet the study's guiding principles and can be phased over the next several years. The evaluated projects were developed in coordination with the Technical Advisory Committee, public outreach, and city staff. The following sections describe the corridor plan recommendations in further detail. The plan recognizes that SR 104 passes through a wide variety of land use zones (see Figure 2) and is a major route bisecting a predominantly conventional grid street system. This land use variety and road alignment dictates the treatments that are appropriate to address safety, access, and mobility needs.

The plan contains features important to the upgrade of corridor facilities for all modes—pedestrians, bicyclists, and transit. The plan features include:

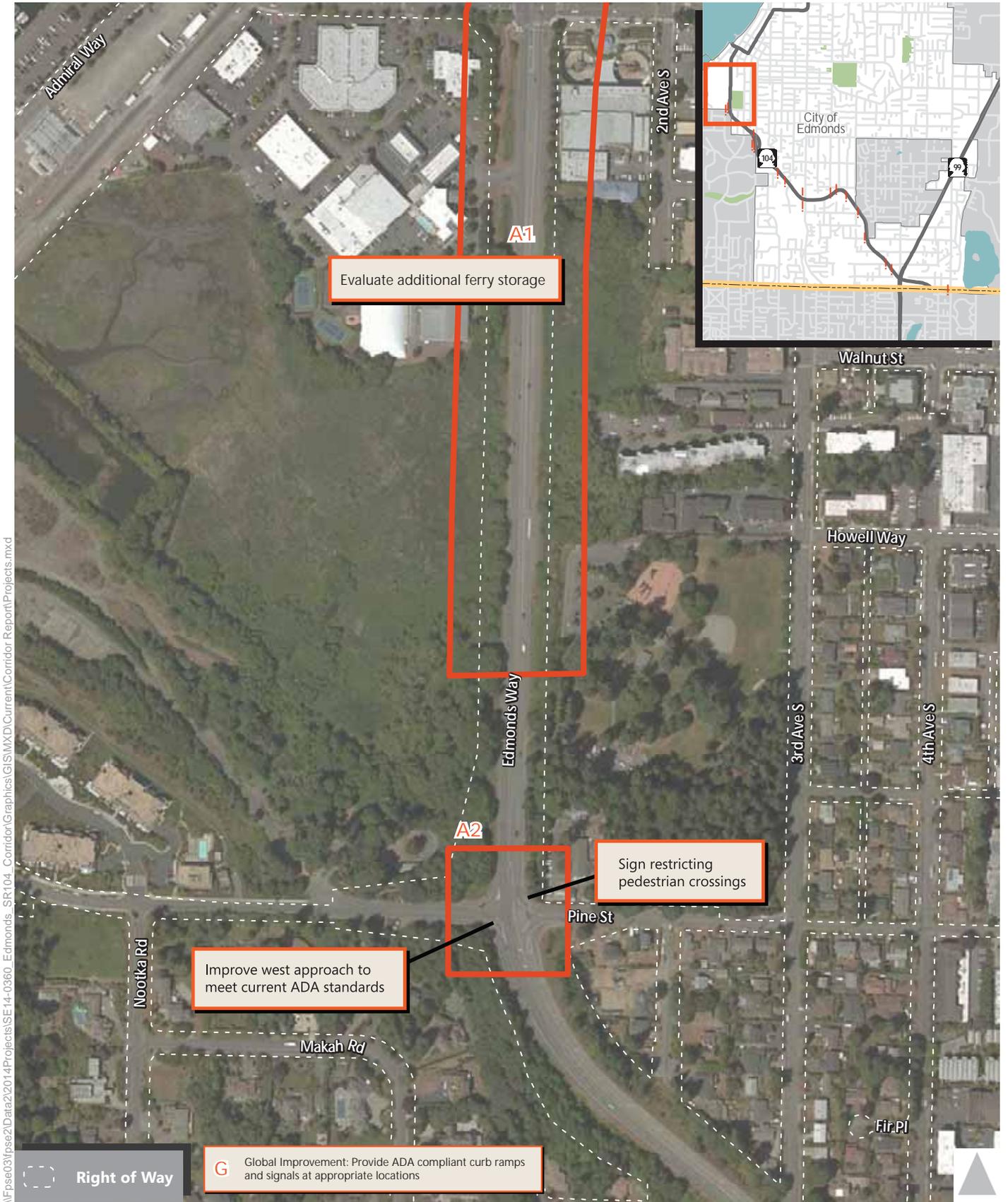
- Basic roadway cross-section that contains two travel lanes in each direction and a sidewalk along most sections. In some sections, the conversion of the two-way left-turn lane to a median or dedicated turn lane (also referred to as access management treatments) is an option.
- Pedestrian crosswalks with flashing beacons.
- Intersection treatments, such as traffic or pedestrian signal, turn pockets, turn radius reductions (to shorten pedestrian crossing distances), better sight distance, and signage.
- Americans with Disabilities Act (ADA) accessibility improvements.

The corridor plan does not recommend the addition of vehicle travel lanes, because the Washington Department of Transportation (WSDOT) and traffic analyses completed as part of the City's Comprehensive Transportation Plan did not show the need for additional vehicle capacity.

Completing all of the proposed corridor projects is an expensive undertaking and will take several years to fund and implement. The plan sets priorities and identifies some 'quick win' projects that could be funded in the near future as funding becomes available. These 'quick win' projects are projects that best meet the criteria developed to support the guiding principles.

CORRIDOR PROJECT RECOMMENDATIONS

The corridor plan consists of 20 projects grouped into six geographical regions from north (Edmonds Ferry Terminal) to south, shown in **Figures 14A to 14F** and summarized in **Table 6**. The total cost of the plan is approximately \$8 million. The costs are considered to be conservative with contingencies applied.



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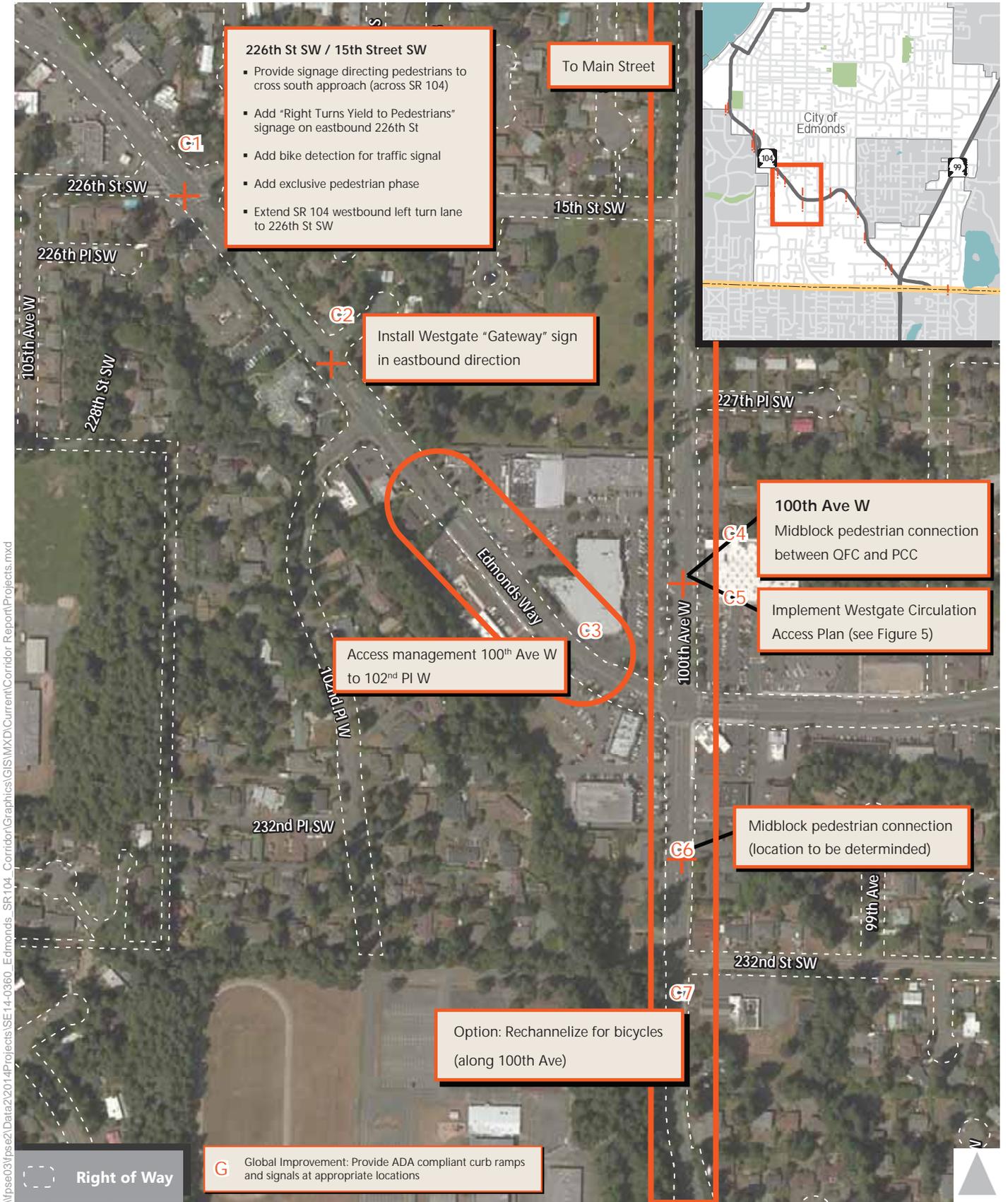


Figure 14-A
Recommended Projects



Figure 14-B
Recommended Projects





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Figure 14-C
Recommended Projects



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Figure 14-D
Recommended Projects

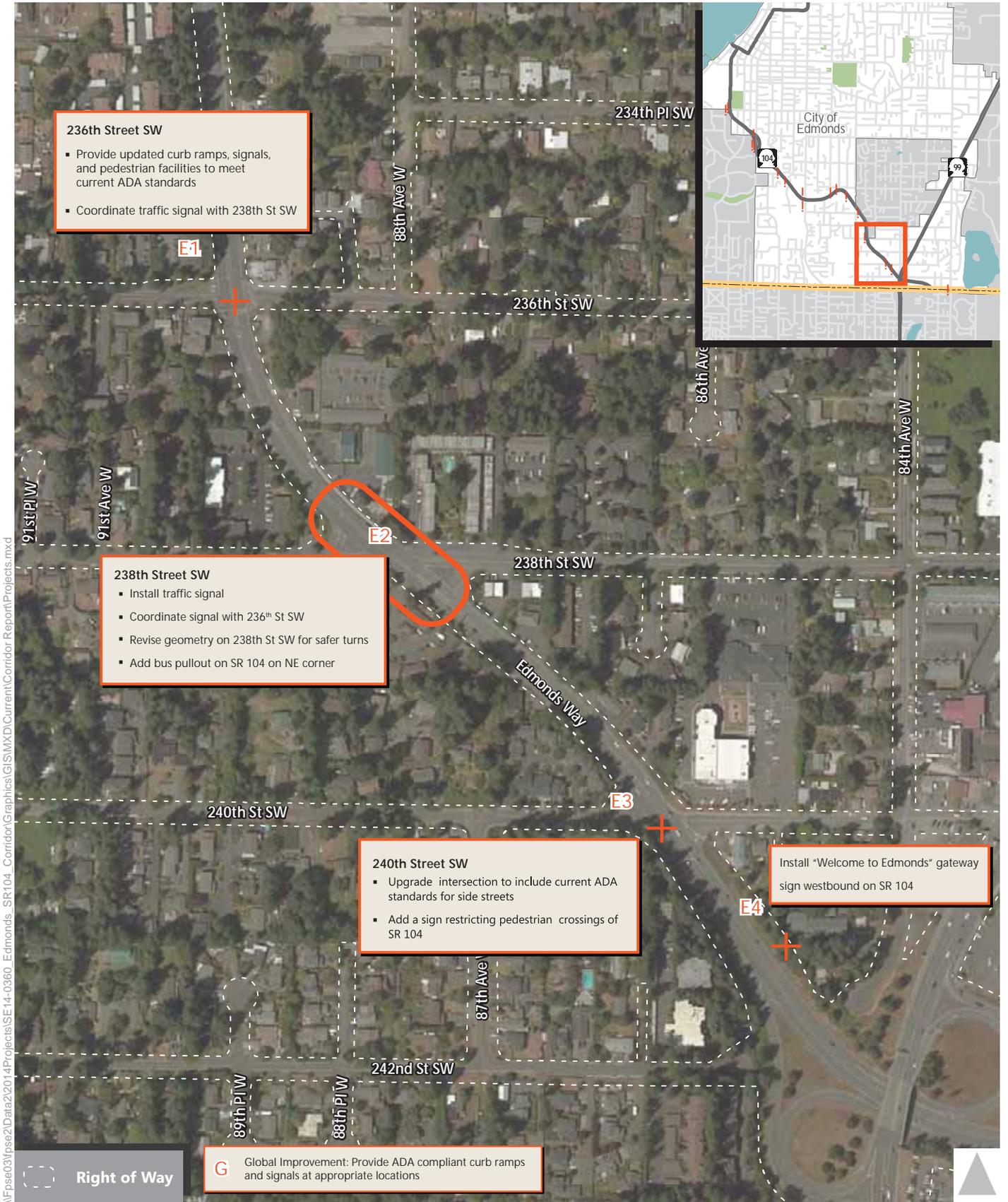


Figure 14-E
Recommended Projects





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Figure 14-F
Recommended Projects

TABLE 6. RECOMMENDED PROJECTS

#1	Project Location	Project Description	Estimated Cost (\$1,000)	Rating
A1	Ferry Terminal / Main Street to Pine Street	Additional Ferry Storage.	\$ 490	30
A2	Pine Street & SR 104	Improve west approach to meet current ADA standards. Sign restricting pedestrian crossing of SR 104.	\$ 66	30
B1	5th Avenue and SR 104	Add crosswalk and pedestrian actuated flashing beacons to connect pedestrian path to and from the bus stop. Speed limit feedback sign for WB traffic exiting onto 5th Ave. Provide ADA ramps to cross SR 104, accompanied by flashing beacons.	\$ 440	34
C1	226th Street SW/ 15th Street SW	Provide signage directing pedestrians to cross south approach. Add "Right Turns Yield to Pedestrians" on eastbound 226th. Add bicycle loop for signal on 226th St. Extend SR 104 westbound left turn lane.	\$ 194	43
C2	Near 15th Way SW	Install Westgate Gateway sign facing eastbound.	\$ 55	22
C3	100th Avenue W to 102nd Place W	Access Management	\$ 314	26
C4	Westgate Area	Implement Westgate Circulation Access plan.	\$ 165	39
C5	100th Avenue W (North of SR 104)	Midblock pedestrian connection between QFC and PCC.	\$ 132	43
C6	100th Avenue W (South of SR 104)	Midblock pedestrian connection (Location TBD).	\$ 132	43
C7	100th Avenue W	Rechannelize for bicycle lanes and mid-block pedestrian crossings. (See projects C5 and C6)	\$ 588	38
D1	West of 95th Place on SR 104	Relocate westbound speed limit to east of intersection.	\$ 11	26
D2	West of 95th Place W	Install Westgate Gateway sign facing eastbound.	\$ 55	22

# ¹	Project Location	Project Description	Estimated Cost (\$1,000)	Rating
D3	95th Place W Intersection	Change signal to protected left-turn signal phasing. Update ADA ramps. Add C curbs for access management.	\$ 495	30
D4	232nd Street SW	Install HAWK signal with emergency vehicle activation. Maintain early emergency detections.	\$ 1,535	32
E1	236th Street SW	Provide updated curb ramps, signals, and pedestrian facilities to meet current ADA standards. Coordinate signal with 238th St SW.	\$ 531	34
E2	238th Street SW	Install Traffic Signal. Coordinate signal with 236th St SW. Revise geometry for safer turns.	\$ 1,338	36
E3	240th Street SW	Include current ADA standards for side streets. Add sign to prevent pedestrian crossing of SR 104.	\$ 110	26
E4	West of SR 99 on SR 104	"Welcome to Edmonds" sign	\$ 55	22
F1	SR 104 & 76th Avenue W	Add a second westbound left turn lane; bicycle lane striping through intersection on 76 th Avenue	\$ 3,017	21
G	Along the SR 104 Corridor	Provide ADA compliant curb ramps and signals at appropriate locations	\$ 534	38
Total			\$10,257	

¹ Corresponds to identification numbers on Figures 14A through 14F

PROJECT PRIORITIZATION

The projects in Table 6 were rated using criteria that were developed based on the projects guiding principles. The prioritization criteria were as follows:

- **Safety** elements of the proposed projects were evaluated based on whether they enhanced safety. Some traffic collision data along the corridor was available to review mostly intersection related issues. Public input on locations with safety concerns were also incorporated into the evaluation. Improvements that received a higher rating improved a known high collision area or addressed a safety concern. Because there were

no areas of recorded high collision rates all projects received either a lower or medium rating.

- **Accessibility** components of the proposed projects were evaluated whether they provide access to various transportation modes along the corridor and/or connect land uses. Projects that rated high improved access for multiple modes or removed an existing access barrier (completed a movement that could not be made today).
- **Identity** improvements were evaluated based on a proposed projects consistency with the SR 104 corridors identity and surrounding land uses. Projects that enhanced the identity of the area received a higher rating. Examples include additional ferry storage to reduce the queue length and place marker signs such as the Westgate signs. Because all projects were developed with the guiding principles in mind, no project was considered to diminish (receive a lower rating) the identity of the corridor or surrounding land uses.
- **Financial** investment for the proposed projects was evaluated based the range of estimated improvement costs. Projects with an estimated construction cost of less than \$100,000 received a higher rating while improvements over \$1 million received a lower rating. These cost ranges represent a general level of complexity and difficulty for a projects implementation. Half of the proposed projects are estimated to cost less than \$100,000.
- **Grant Eligibility** was evaluated qualitatively based on the project teams (which included city staff) understanding of the current grant environment. Generally, improvements that benefited walking and bicycling, improved connections to schools, and/or addressed safety received a higher rating.

Table 7 summarizes the weighting and rating for each prioritization criteria. Guidance on how the ratings were evaluated is also provided.

TABLE 7. PRIORITIZATION CRITERIA AND WEIGHTING

Criterion	Weight	Rating		
		Lower	Medium	Higher
Safety	5	Limited or no effect	Direct safety benefit	Improves high collision location
Accessibility	4	Limited or no effect	Improves single mode, enhances an existing crossing	Improves multiple modes, completes a crossing that can't be made today
Identity	1	Diminishes identity	Neutral effect	Enhances identity
Financial	2	High project cost (>\$1,000,000)	Medium project cost (\$100,000-\$1,000,000)	Low project cost (<\$100,000)
Grant Eligibility	4	Low likelihood of grant funding	Likely to compete for grant funds	Good potential for grant/ other funding

Table 6 includes the ratings (higher, medium, or lower) for each project using these criteria. **Appendix B** includes the detailed prioritization results and more complete project descriptions.

A summary of project costs and the percent of costs for higher, medium, and lower ratings is summarized in **Table 9**.

TABLE 8. RECOMMENDED PROJECTS

Rating	Cost	Percent of Cost
Higher	\$1,745	30%
Medium	\$4,895	35%
Lower	\$3,617	35%
Total	\$10,257	100%

Over 60 percent of the corridor plan costs are represented by proposed projects that rate as higher or medium priority. The prioritization process will be helpful to the city seeking grant funds or packaging project elements along the corridor.

QUICK WIN PROJECTS

Realizing the high implementation cost of the entire plan, the team identified several actions that could produce immediate benefits – “quick wins”. **Table 10** lists these quick win projects in order of priority rating. The total quick win project costs total \$1,305,000. Sixty (60) percent of the quick win project costs are tied to higher or medium priority projects. Several are also tied to the implementation of the Westgate Plan.

TABLE 9. QUICK WIN PROJECTS

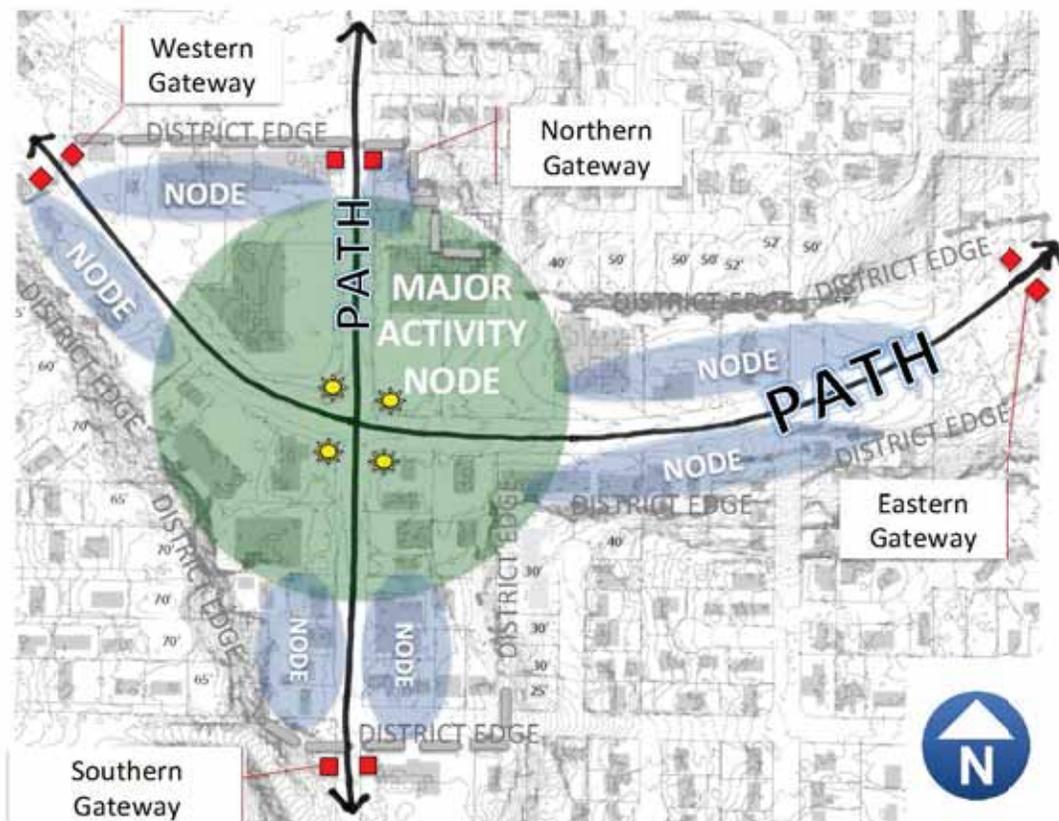
#	Rating ¹	Project Location	Project Description	Estimated Cost (\$1,000)
C1	H	226th Street SW/ 15th Street SW	Provide signage directing pedestrians to cross south approach. Add "Right Turns Yield to Pedestrians" on eastbound 226th. Add bicycle loop for signal on 226th St. Extend SR 104 westbound left turn lane.	\$194
C4	H	Westgate Area 100th Avenue	Implement Westgate Circulation Access plan.	\$165
C5	H	W (North of SR 104) 100th Avenue	Midblock pedestrian connection between QFC and PCC.	\$132
C6	H	W (South of SR 104)	Midblock pedestrian connection (Location TBD).	\$132
B1	M	5th Avenue and SR 104	Add crosswalk and pedestrian actuated flashing beacons to connect pedestrian path to and from the bus stop. Speed limit feedback sign for WB traffic exiting onto 5th Ave. Provide ADA ramps to cross SR 104, accompanied by flashing beacons.	\$440
A2	M	Pine Street & SR 104	Improve west approach to meet current ADA standards. Sign restricting pedestrian crossing of SR 104.	\$66
C2	L	Near 15th Way SW West of 95th	Install Westgate Gateway sign facing eastbound.	\$55
D1	L	Place on SR 104	Relocate westbound speed limit to east of intersection.	\$11
D2	L	West of 95th Place W	Install Westgate Gateway sign facing eastbound.	\$55
E4	L	West of SR 99 on SR 104	"Welcome to Edmonds" sign	\$55
¹ Rating: L=Lower; M=Medium; H=High				TOTAL: \$1,305

WESTGATE PLAN CONCEPT

A key part of the SR 104 Complete Streets Corridor Analysis was to examine transportation and land use interactions within the Westgate area. **Appendix C** contains the results of this investigation, consisting of a memorandum by Joseph Tovar (1/28/15) that summarizes the team's review of a variety of transportation, land use and urban design issues, and a memorandum by Fehr & Peers (1/26/15) that focusses on the transportation issues. The setback in Appendix C is included in the Study as part of the consultant's recommendation. The City adopted the use of a different setback on April 7, 2015 as part of Westgate Code Adoption (Westgate Mixed Use Zone District Ordinance/ Ordinance No. 3993).

This section provides additional transportation perspectives on the following questions:

1. What are the long-term street lane and width requirements on SR 104 and 100th Avenue W through Westgate?
2. How should bicycles and pedestrians be accommodated?
3. How should property access and internal circulation be considered?



What are the long-term street lane and width requirements on SR 104 and 100th Avenue W through Westgate?

The team evaluated the current and forecasted (2035) traffic volumes, speeds and movements on SR 104 and 100th Avenue W. Both SR 104 and 100th Avenue W have sufficient capacity to serve forecasted increases in traffic volumes. The City may choose to re-stripe either or both roads and re-phase the signal at the intersection to meet mobility and safety objectives; however, neither action depends on the acquisition of additional right-of-way.

How should bicycles and pedestrians be accommodated?

Bicycles

Bicycle facilities are not envisioned along SR 104, but other parallel and connecting bicycle routes are included within the comprehensive transportation plan.

Bicycle lanes on 100th Avenue W are included in the city's Comprehensive Transportation Plan. 100th Avenue W is an important non-motorized north/south link between the cities of Shoreline and Edmonds. As discussed in the text box, the team examined a potential re-channelization on 100th Avenue W to accommodate bicycle lanes.

Within Westgate, bicycles could be accommodated on private property pursuant to proposed amendments to the draft Westgate Mixed Use (WMU) zoning district. These enhancements would tie in well with the bicycle treatments along 100th Avenue W.

What About Creating Bicycle Lanes on 100th Avenue?

The team analyzed an option to rechannelize 100th Avenue W (from the south city boundary to Main Street) to allow for dedicated bicycle lanes and safer pedestrian crossings. This rechannelization would have a 3-lane cross section plus bicycle lanes, planter strips and sidewalks. The traffic analysis indicated that a 3-lane section would operate acceptably under existing traffic conditions. In the future, this design would also be expected to work well to the south and north of SR 104. At the SR 104/100th Avenue intersection, vehicle delays would increase on the north and south approaches of 100th Avenue and may exceed the city's desirable Level of Service at that location. Retaining a northbound right turn lane on 100th Avenue approaching SR 104 would reduce vehicle delays; however, some roadway widening might be needed to retain the bicycle lane in that location.

The re-channelization concept represents a tradeoff between auto queueing and delay versus and creating a continuous bike lane and a 'calmer' traffic environment. A more in-depth corridor analysis and design is desirable to examine these tradeoffs.

Pedestrians

Pedestrians need to have a safe and pleasant environment along SR 104 and 100th Avenue W, crossing those streets, and internally within private properties. Pedestrians would benefit by having wider sidewalks along SR 104 and 100th Avenue W along with the installation of highly visible crosswalk panels and/or pavement at the intersection of SR 104/100th Avenue W¹.

Two midblock pedestrian crossings of 100th Avenue W are recommended, one connecting the entrances of the QFC and PCC to the north, and another one located to the south of SR 104. These pedestrian crossings could also serve as traffic calming and safety devices along 100th Avenue W.

How should property access and internal circulation be considered?

The Westgate area is bisected into four quadrants by SR 104 and 100th Avenue W. Vehicular access is provided at each quadrant by a variety of driveways, serving a mix of individual and grouped properties. The northeast quadrant has been recently redeveloped, with upgraded access points along SR 104 and 100th Avenue W. The other quadrants provide a mix of access points, some of which pose safety and circulation problems.

As shown in **Figure 15**, the Westgate plan envisions consolidation of driveways within each quadrant and encouragement of internal circulation between properties. This will reduce in- and -out driving on the arterials and encourage one-stop parking. The plan also recommends access management treatments using curbing along SR 104 to the west of 100th Avenue (see Project C-3 in Table 6). This treatment will improve safety for turning vehicles into and out of the Westgate area and facilitate driveway consolidation.

The signal at the SR 104/100th Avenue W intersection provides full pedestrian crosswalks and signalization, although crossing these roadways is not always a pleasant experience. Implementing wider sidewalks and urban design features at this intersection will encourage more pedestrian connections among the four Westgate quadrants.

¹ *The Tovar memorandum provides details regarding the use of urban design treatments to improve the pedestrian experience in Westgate.*

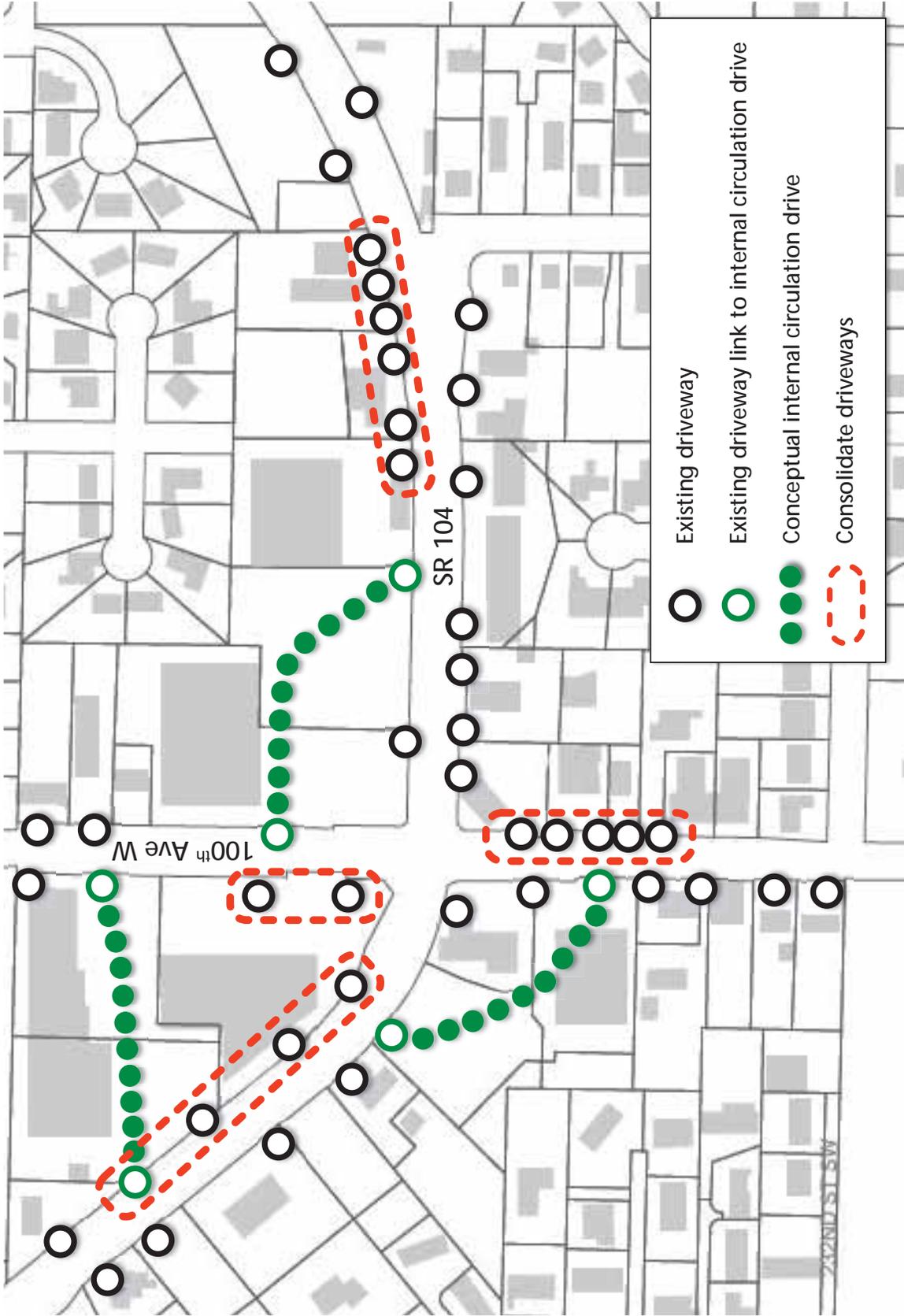


Figure 15

Westgate Access Management Conceptual Plan

ROADWAY CROSS-SECTION

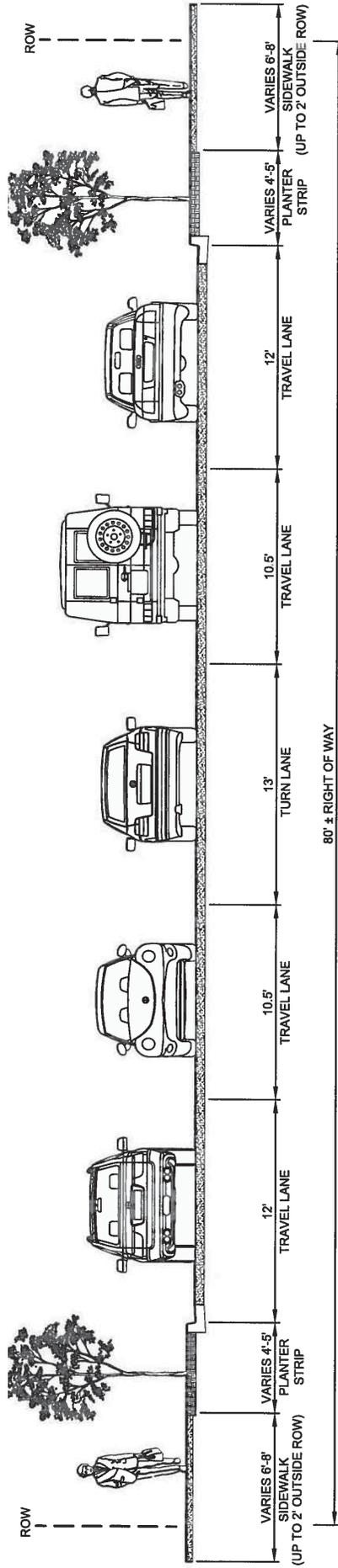
SR 104 is largely built-out within its 80+- foot right-of-way. However, there are opportunities to make more efficient use of the available width or to add mobility improvements by acquiring some additional right-of-way.

Currently, the predominant five-lane cross section consists of four 12 foot travel lanes, a 13 foot left turn lane and sidewalks that vary in width from 5.5 to 7.5 feet. Some sections have planter strips where new infill development has occurred.

Two potential cross-sections are depicted in **Figure 16**. The top diagram shows a 'full-build' section that would be preferred if the roadway were rebuilt. Slightly narrower travel lanes would provide opportunities for a wider sidewalk and planter strips. As shown, an additional 2 feet of right-of-way may be required on both sides of the corridor.

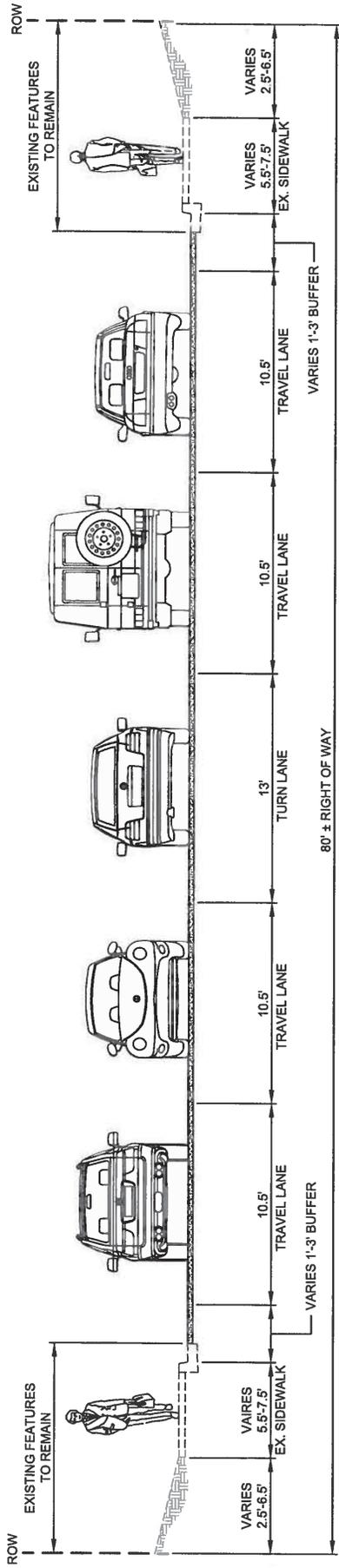
The bottom diagram shows what could be accomplished with a roadway overlay project. The curb locations would not change. The travel lanes would be reduced in width, providing a 1-3 foot buffer between the outside travel lane and the sidewalk. This buffer would provide some visual separation between vehicles and pedestrians and offer a slight increase in sight distance.

As new development occurs within the corridor, hybrid cross sections are possible, in which the existing curbs remain but width is added for planter strips and wider sidewalks. In some cases, this requires dedication of some right-of-way by the developer.



TYPICAL SR104 FULL BUILD-OUT CROSS-SECTION

- 240TH ST. SW TO 226TH ST. SW
- MEETS CLEAR ZONE REQUIREMENTS PER EGDC 18.70.030
 - STREET ILLUMINATION AT BACK OF SIDEWALK



TYPICAL SR104 OVERLAY CROSS-SECTION

- 240TH ST. SW TO 226TH ST. SW
- MEETS CLEAR ZONE REQUIREMENTS PER EGDC 18.70.030
 - STREET ILLUMINATION AT BACK OF SIDEWALK

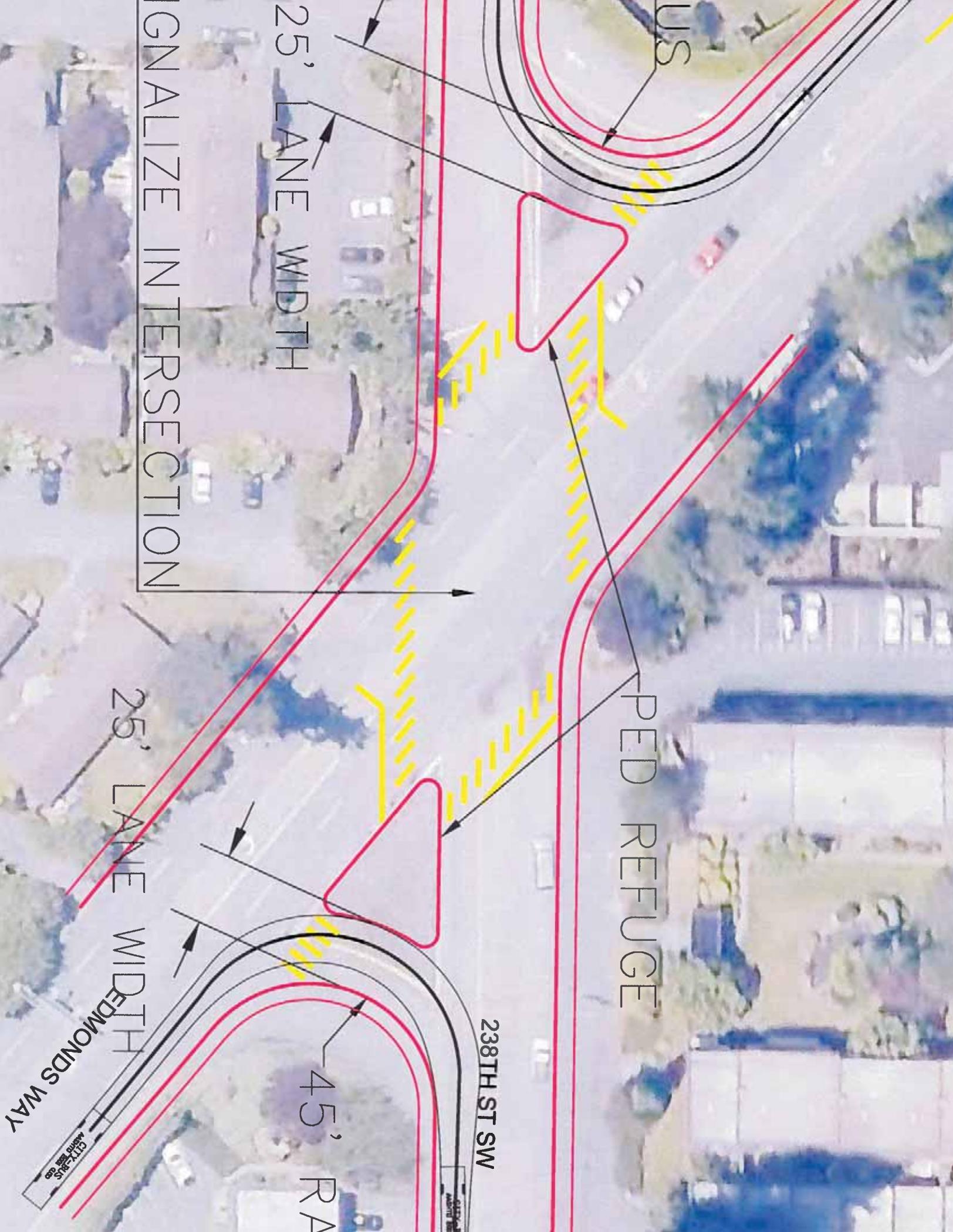


Figure 16
SR 104 Preferred Cross Sections

APPENDIX A

Project Diagrams





US

25' LANE WIDTH

SIGNALIZE INTERSECTION

PED REFUGE

25' LANE WIDTH

EDMONDS WAY

45' RA

238TH ST SW

45' RA

AVERAGE: X.XX; IS THE AVERAGE LIGHT VISIBLE PER SQUARE FOOT ON THE ROADWAY SURFACE

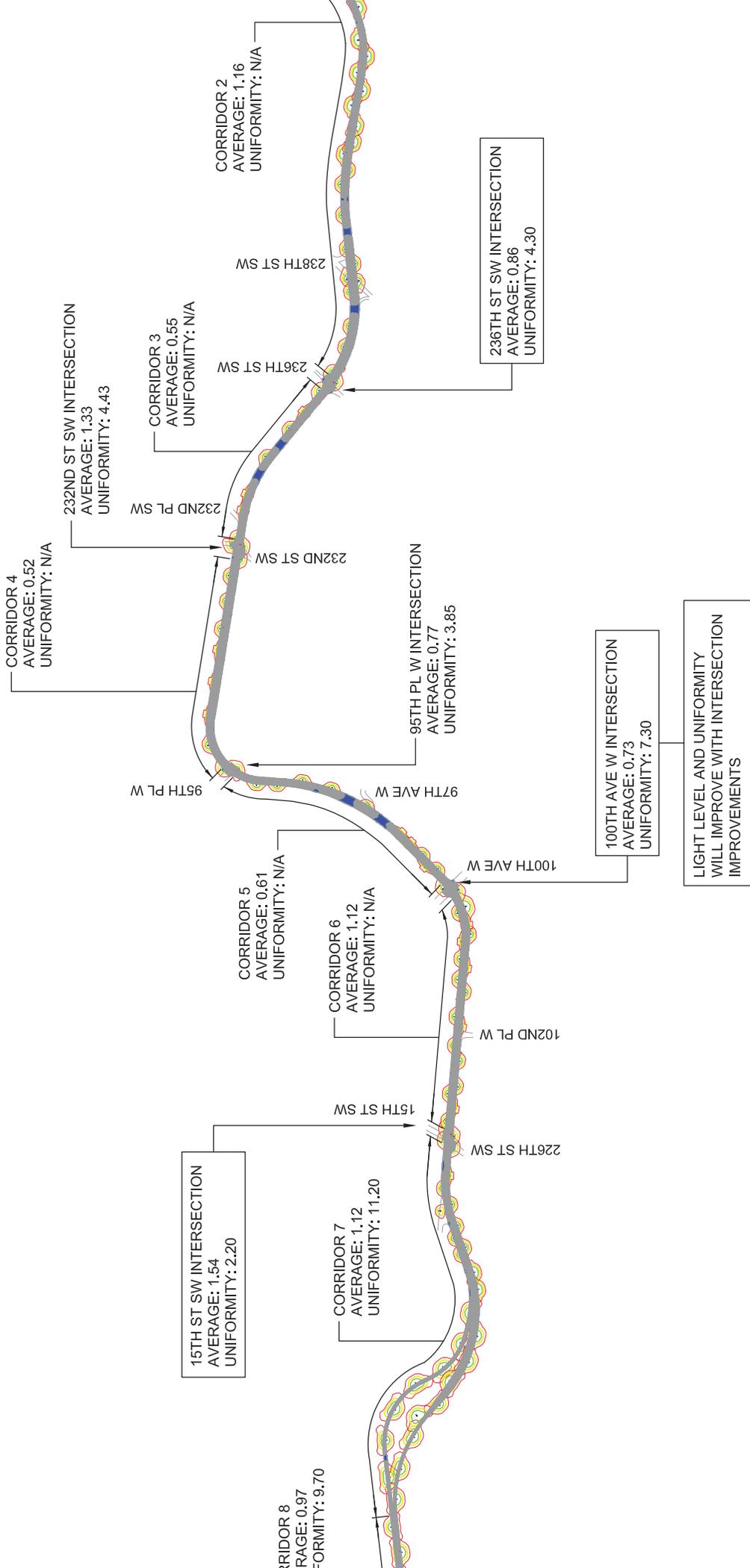
UNIFORMITY: X.XX; IS THE AVERAGE LIGHT LEVEL TO THE DARK AREAS ON THE ROADWAY...POOR OR A HIGH UNIFORMITY NUMBER MAKES YOUR EYES HAVE TO ADJUST TO LIGHT AND DARK AREAS ON THE ROADWAY.

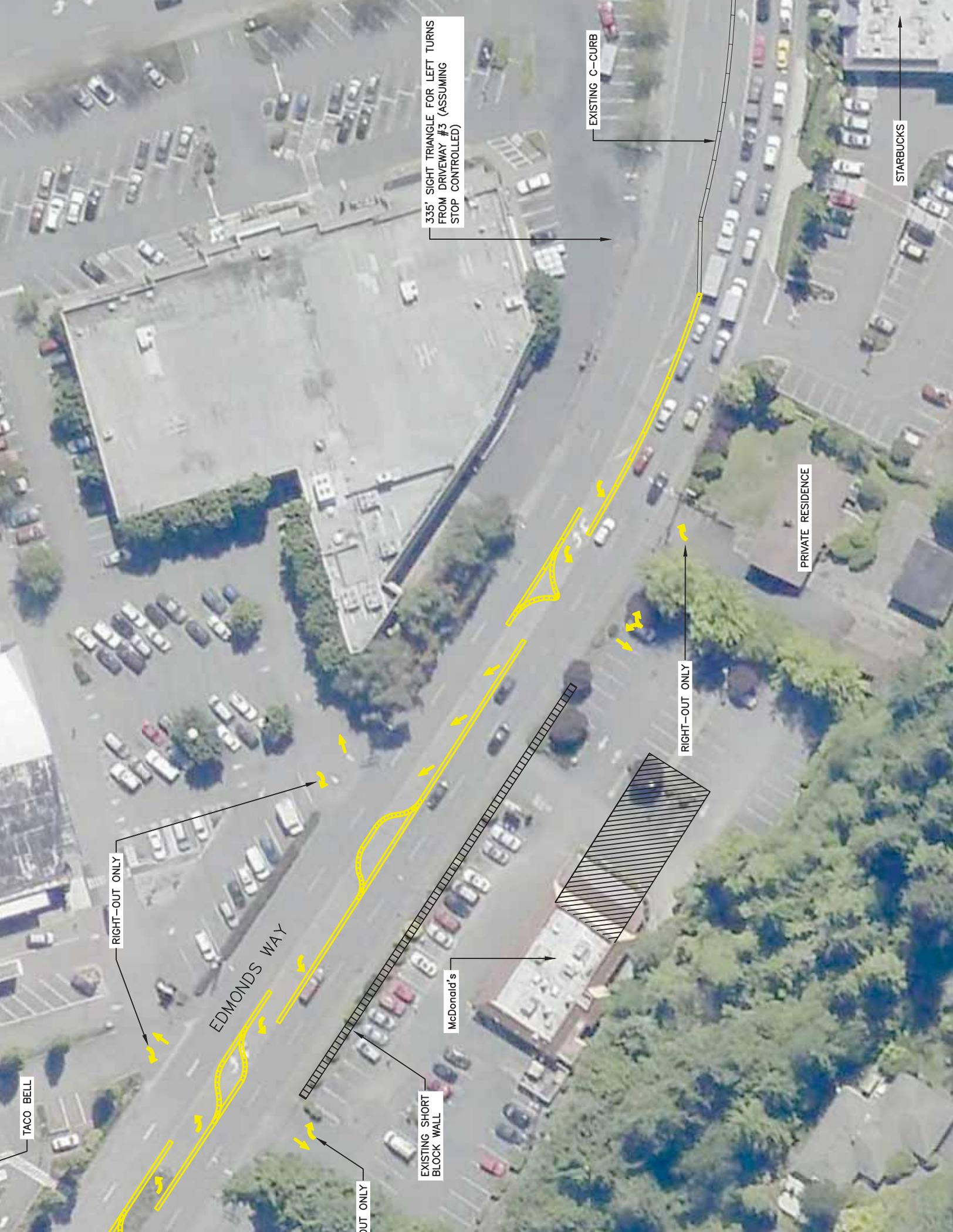
LIGHTING DESIGN CRITERIA:

AVERAGE ON CORRIDOR: 0.6
AVERAGE AT INTERSECTION: 0.9

UNIFORMITY RATIO ON CORRIDOR: 4.0
UNIFORMITY RATIO AT INTERSECTION: 4.0

AREAS OF POOR LIGHTING ON ROADWAY





RIGHT-OUT ONLY

EDMONDS WAY

TACO BELL

OUT ONLY

EXISTING SHORT BLOCK WALL

McDonald's

335' SIGHT TRIANGLE FOR LEFT TURNS FROM DRIVEWAY #3 (ASSUMING STOP CONTROLLED)

EXISTING C-CURB

RIGHT-OUT ONLY

PRIVATE RESIDENCE

STARBUCKS



LEGEND:

- C-CURB
- TRAFFIC ISLAND

EDMONDS WAY

95TH PL W

APPENDIX B

Prioritization Results

Appendix B

Project ID	Rating	Location	Criteria Weight					Total Priority Rating	Description	Estimated Cost
			Safety	Accessibility	Identity	Financial	Grant Eligibility			
A1	M	Ferry Terminal / Main Street to Pine Street	1	3	3	3	1	30	Additional Ferry Storage.	\$ 489,500
A2	M	Pine Street & SR 104	2	2	2	3	1	30	Improve west approach to meet current ADA standards. Sign restricting pedestrian crossing of SR-104.	\$ 66,000
B1	M	5th Avenue and SR 104	2	2	2	3	2	34	Add crosswalk and pedestrian actuated flashing beacons to connect pedestrian path to and from the bus stop. Speed limit feedback sign for WB traffic exiting onto 5th Ave. Provide ADA ramps to cross SR-104, accompanied by flashing beacons.	\$ 440,000
C1	H	226th Street SW/ 15th Street SW	2	3	3	3	3	43	Provide signage directing pedestrians to cross south approach. Add "Right Turns Yield to Pedestrians" on eastbound 226th. Add bike loop for signal on 226th St. Extend SR 104 westbound left turn lane. Modify signal to provide pedestrian only phase.	\$ 193,600
C2	L	Near 15th Way SW	1	1	3	3	1	22	Install Westgate Gateway sign facing eastbound.	\$ 55,000
C3	L	100th Avenue W to 102nd Place W	2	1	2	3	1	26	Access Management	\$ 314,000
C4	H	Westgate Area	2	3	3	3	2	39	Implement Westgate Circulation Access plan.	\$ 165,000
C5	H	100th Avenue W (North of SR 104)	2	3	3	3	3	43	Midblock pedestrian connection between QFC and PCC.	\$ 132,000

Appendix B

Project ID	Rating	Location	Criteria Weight					Total Priority Rating	Description	Estimated Cost
			Safety	Accessibility	Identity	Financial	Grant Eligibility			
C6	H	100th Avenue W (South of SR 104)	2	3	3	3	3	43	Midblock pedestrian connection (Location TBD).	\$ 132,000
C7	H	100th Avenue W	2	2	2	3	3	38	Rechannelize for bicycle lanes and mid-block pedestrian crossings	\$ 588,468
D1	L	West of 95th Place on SR 104	2	1	2	3	1	26	Relocate westbound speed limit to east of intersection.	\$ 11,000
D2	L	West of 95th Place W	1	1	3	3	1	22	Install Westgate Gateway sign facing eastbound.	\$ 55,000
D3	M	95th Place W Intersection	2	2	2	3	1	30	Change signal to protected left-turn signal phasing. Update ADA ramps. Add C curbs for access management.	\$ 495,000
D4	M	232nd Street SW	2	2	2	2	2	32	Install HAWK signal with emergency vehicle activation. Maintain early emergency detections.	\$ 1,534,716
E1	M	236th Street SW	2	2	2	3	2	34	Provide updated curb ramps, signals, and pedestrian facilities to meet current ADA standards. Coordinate signal with 238th St SW.	\$ 531,330
E2	M	238th Street SW	2	3	2	2	2	36	Install Traffic Signal. Coordinate signal with 236th St SW. Revise geometry for safer turns.	\$ 1,337,960
E3	L	240th Street SW	2	1	2	3	1	26	Include current ADA standards for side streets. Add sign to prevent pedestrian crossing of SR 104.	\$ 110,000
E4	L	West of SR 99 on SR 104	1	1	3	3	1	22	"Welcome to Edmonds" sign	\$ 55,000
F1	L	SR 104 & 76th Avenue W	1	1	2	1	2	21	Add a second westbound left turn lane, bicycle striping	\$ 3,017,000
G	H	Along the SR 104 Corridor	2	3	2	3	2	38	Provide ADA compliant curb ramps and signals at appropriate locations	\$ 534,000
			5	4	1	2	4	TOTAL: \$ 10,257,000		

Appendix C

Westgate Memoranda



MEMORANDUM

Date: January 26, 2015
To: Bertrand Hauss, City of Edmonds
From: Donald Samdahl, Fehr & Peers
Subject: Westgate Area Transportation Analysis

SE14-0360

As part of the SR 104 Complete Streets Corridor Analysis, the consulting team was asked to focus initial analysis on the Westgate area. A memorandum by Joseph Tovar (1/28/15) summarizes the team's review of a variety of transportation, land use and urban design issues. This memorandum provides additional transportation perspectives on the following questions:

1. What are the long-term street lane and width requirements on SR 104 and 100th Avenue W through Westgate?
2. How should bicycles and pedestrians be accommodated?
3. How should property access and internal circulation be considered?

This memorandum provides insights into each of these issues to help the city in finalizing its form-based code requirements.

What are the long-term street lane and width requirements on SR 104 and 100th Avenue W through Westgate?

The team evaluated the current and forecasted traffic volumes, speeds and movements on SR 104 and 100th Avenue W. This analysis took into account traffic forecasts to 2035, including the effects of WSDOT ferry traffic and the impacts from build-out of the Point Wells development.



SR 104

WSDOT considers SR 104 as a 'Main Street Roadway' that has a multimodal focus and has no plans to widen SR 104 through Edmonds. Our traffic forecasts and analysis confirm that no additional widening/capacity is needed through Westgate.

100th Avenue W

Traffic volumes are anticipated to increase along 100th Avenue W; however, the projected traffic increase could be accommodated with the existing lane configuration. No additional right-of-way along 100th Avenue W is needed to provide for traffic flow and the wider sidewalk/planter strip requirements.

Intersection Analysis

The team analyzed future (2035) traffic volumes and traffic operations at the SR 104/100th Avenue W intersection. If no changes are made to the channelization, the intersection would operate at Level of Service (LOS) D during the PM peak hour. The team also analyzed a road diet on 100th Avenue W to allow for bicycle lanes and wider sidewalks through Westgate. The road diet proposes a 3-lane cross section plus bicycle lanes, planter strips and sidewalks (see **Figures 1 and 2**). On the northbound 100th Avenue W approach to SR 104, the team recommends the inclusion of a right turn lane to accommodate heavy right turning volumes (see Figure 3). Adding a northbound right-turn lane would eliminate the planter strip for the length of the right turn lane. The resulting LOS would remain at D, although the overall intersection delay would be slightly worse with the road diet compared to existing conditions. A LOS of D meets the city's performance threshold for acceptable intersection operations¹. Under both scenarios, delays could be reduced by allowing permissive + protected left turns on the 100th Avenue W approaches to the intersection.

In summary, both SR 104 and 100th Avenue W would have sufficient capacity to serve forecasted increases in traffic volumes. The City may choose to re-stripe either or both roads and re-phase the signal at the intersection to meet mobility and safety objectives; however, neither action depends on the acquisition of additional right-of-way.

¹ SR 104 is a Highway of Statewide Significance and has a LOS E standard per WSDOT guidelines.



Figure 1. Proposed SR 104/100th Avenue W Channelization

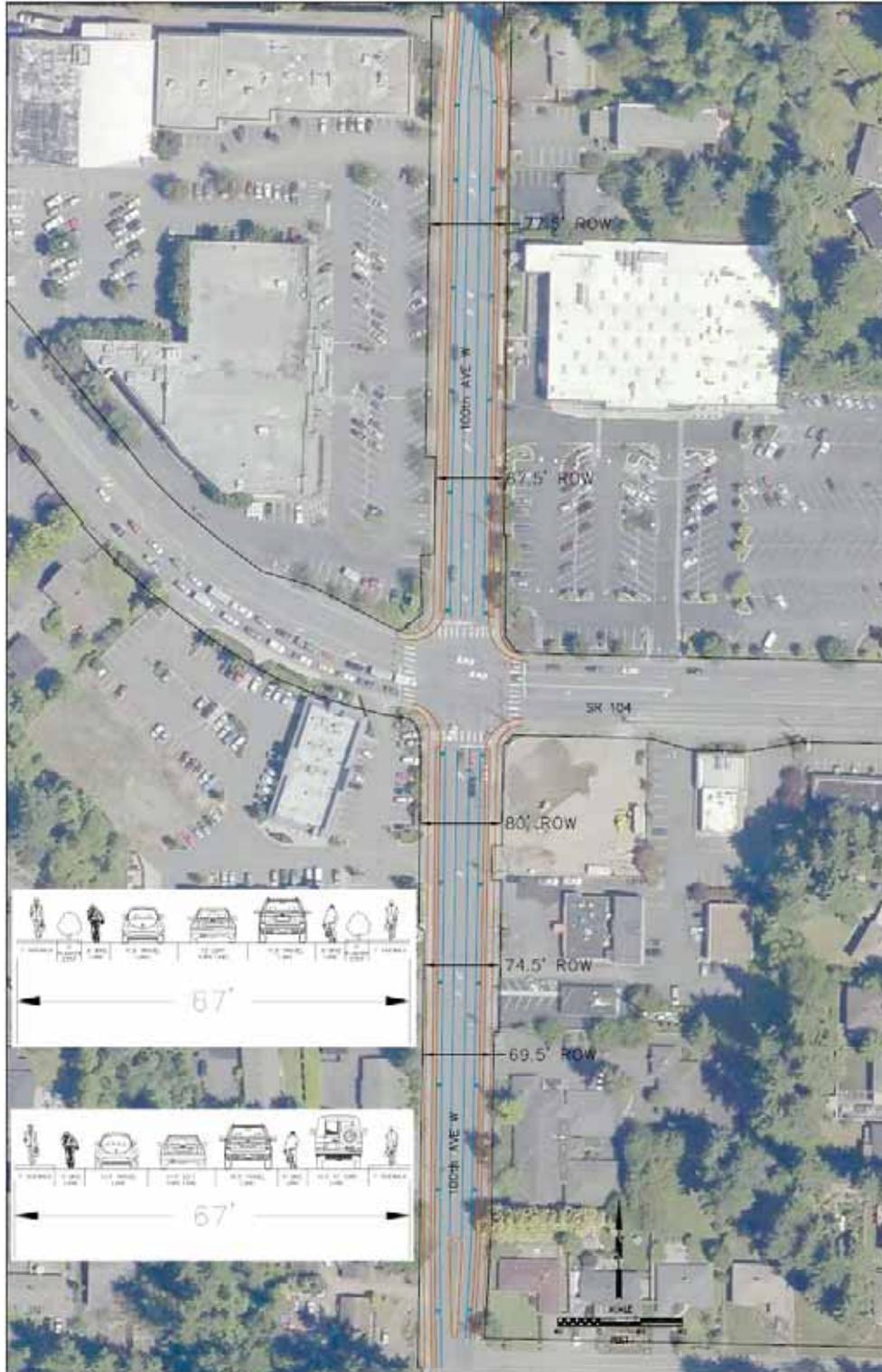




Figure 2. 100th Avenue W with 3-Lane Cross Section

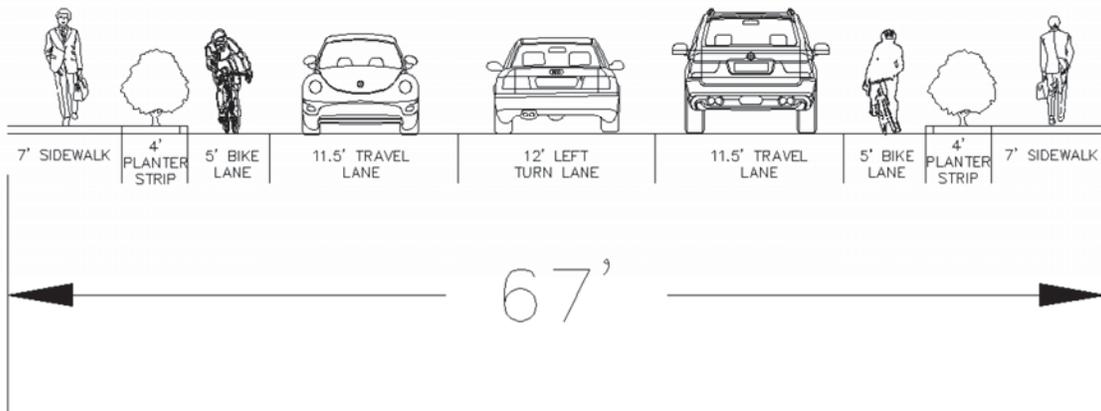
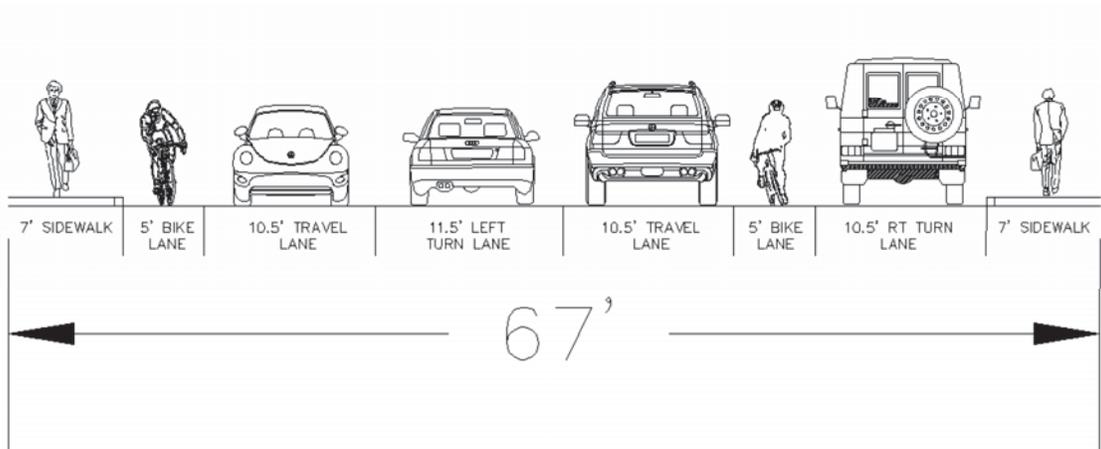


Figure 3. 100th Avenue W with 3-Lane plus northbound Right-Turn Lane Cross Section





How should bicycles and pedestrians be accommodated?

Bicycles

Bicycle facilities are not envisioned along SR 104, but other parallel and connecting bike routes are included within the comprehensive transportation plan.

Bicycle lanes on 100th Avenue W are likely to become part of the city's long-range plan. 100th Avenue W is an important non-motorized north/south link between the cities of Shoreline and Edmonds. As discussed above, the team examined a potential road diet on 100th Avenue W. This would convert the existing 4-lanes into a 3-lane configuration plus bike lanes. This layout is projected to function acceptably for traffic and provide for a continuous bicycle lane through the Westgate area.

As indicated in the Tovar memorandum, bicycles could be accommodated on private property pursuant to proposed amendments to the draft Westgate Mixed Use (WMU) zoning district. These enhancements would tie in well with the bicycle treatments along 100th Avenue W.

Pedestrians

Pedestrians need to have a safe and pleasant environment along SR 104 and 100th Avenue W, crossing those streets, and internally within private properties. As summarized by Tovar, pedestrians would benefit by having wider sidewalks along SR 104 and 100th Avenue W along with the installation of highly visible crosswalk panels and/or pavement at the intersection of SR 104/100th Avenue W². This intersection will provide the primary pedestrian connections among the Westgate quadrants.

² *The Tovar memorandum provides details regarding the use of urban design treatments to improve the pedestrian experience in Westgate.*



A possible midblock pedestrian crossing of 100th Avenue W connecting the entrances of the QFC and PCC was also considered. The midblock crossing appears to be physically and operationally feasible, but requires additional analysis and coordination with property owners. This crossing could also serve as a traffic calming and safety device along 100th Avenue W because the nearby driveways could be reconfigured to provide right-in/right-out movements.

How should property access and internal circulation be considered?

The Westgate area is bisected into four quadrants by SR 104 and 100th Avenue W. Vehicular access is provided at each quadrant by a variety of driveways, serving a mix of individual and grouped properties. The northeast quadrant has been recently redeveloped, with upgraded access points along SR 104 and 100th Avenue W. The other quadrants provide a mix of access points, some of which pose safety and circulation problems.

Tovar's memorandum encourages consolidation of driveways within each quadrant and provide maximum internal circulation between properties. This will reduce in and out driving on the arterials and encourage one-stop parking. Tovar describes specific access treatments within each quadrant³. One access treatment to improve safety is the designation of right-in/right-out movements at selected driveways. Tovar's memorandum identifies some specific locations where these restrictions may be considered. To address staff and resident concerns about vehicles 'darting' across SR 104 and 100th Avenue W at driveways, a detailed access management plan for this area could be developed. This plan could serve to enhance aesthetics through landscaped medians, safety through directing vehicles to turn at predictable and controlled locations, and accessibility through new and enhanced pedestrian crossing. Vehicular

³ Tovar Memorandum: *Property vehicular access within Westgate should be controlled with additional WMU zoning district access management standards. These standards would essentially: (a) "freeze" the driveway locations on SR 104 east of 100th Ave. W. ;(b) eliminate or consolidate the existing driveways on 100th Ave W. (particularly the QFC and Bartell quadrants) and: (c) eliminate or consolidated the driveways on SR 104 west of 100th Ave W. Flexibility in the specific location and dimensions of driveways should be administered through the Code's review process of future site plan/building permit applications.*



connections between quadrants take place through the SR 104/100th Avenue W intersection. Some midblock vehicle crossings of 100th Avenue W take place, notably between PCC and QFC. These movements are problematic, especially during peak periods. There are no reasonable options to provide additional signalized vehicular crossings between quadrants, but there may be opportunities for midblock pedestrian crossings. As described above, safe and efficient pedestrian connections between QFC and PCC would reduce the need for people to drive between the two sites.

The signal at the SR 104/100th Avenue W intersection provides full pedestrian crosswalks and signalization, although crossing these roadways is not always a pleasant experience. Implementing wider sidewalks and urban design features at this intersection will encourage more pedestrian connections among the four Westgate quadrants.



Memorandum

TO: City of Edmonds
FROM: Joseph W. Tovar, FAICP
DATE: January 28, 2015
SUBJ: Westgate Form Based Code in the SR 104 Corridor

I. Executive Summary

In the fall of 2014, the City Council began its review of the Planning Board recommendation to adopt a new Chapter 16.110 entitled – Westgate Mixed Use District (WMU). At a series of study meetings, the Council considered amendments to the WMU, but decided to postpone a final decision on the proposed code until several questions about the Westgate area could be answered by the pending SR 104 Complete Streets Corridor Analysis. To assist the Council’s deliberations, the consulting team was asked to provide analysis on several key questions.

A. Key Questions

1. What are the long-term street lane and width requirements on SR 104 and 100th Avenue West through Westgate?
2. What should the WMU code say about building setback requirements along these two roadways?
3. How should bicycles and pedestrians be accommodated?
4. What other amendments to the WMU could be adopted to highlight Westgate as a walkable, sustainable, mixed use District?
5. How should property access and internal circulation be considered?
6. What is the appropriate parking standard for commercial uses in the Westgate district?

B. Conclusions and Recommendations

1. Both SR 104 and 100th Avenue West have sufficient capacity to serve forecasted increases in traffic volumes up to 2035. More detailed technical information is in the Fehr and Peers Tech Memo (Fehr and Peers Memo).
2. Bicycle facilities (e.g., bike racks or lockers) could be accommodated in redevelopment plans on private property pursuant to proposed amendments to the draft WMU zoning district. The addition of bike lanes in 100th Ave W. would do the most to enhance Westgate as a multi-modal transportation district. These could be accommodated within existing right-of-way by extending the three-lane section with bicycle lanes that now exists on Firdale Avenue north to Westgate. The reconfiguration of 100th Avenue to accommodate bicycles can be accomplished with a “road diet” which maintains acceptable levels of traffic flow

through the intersections of SR 104/100th Ave W. and 100th Ave W./SW 238th St.. *See* Fehr and Peers Memo.

3. Pedestrians will be accommodated by the 8' wide sidewalks and adjacent 5' wide amenity space in SR 104 and 100th Ave. W. The sidewalk area should be widened at the corners of the intersection by modifications to the WMU standards to increase building setbacks from the 12' default to 15'.
4. Additional pedestrian accommodation in Westgate could be achieved by two capital improvement projects that should be coordinated with adjacent site plan improvements: (1) installation of highly visible crosswalk panels or pavement at the intersection of SR 104/100th Ave. W., similar to the improvements made on SR 99 in Shoreline; and (2) creation of a mid-block pedestrian crossing in 100th Ave. W. to provide a direct connection between the entrances of the QFC and PCC.
5. Internal vehicular and pedestrian circulation should meet the materials and dimensional standards for "Internal Circulation Drives" set forth in the WMU at 22.110.050. It is recommended that this section be supplemented with a map that indicates where on each block face the end points of each segment of the Internal Circulation Drive must meet the public right of way. *See* Fig. 18.
6. Property vehicular access within Westgate should be controlled with additional WMU zoning district access management standards. These standards would essentially: (a) "freeze" the driveway locations on SR 104 east of 100th Ave. W.; (b) eliminate or consolidate the existing driveways on 100th Ave W. (particularly the QFC and Bartell quadrants) and: (c) eliminate or consolidate the driveways on SR 104 west of 100th Ave W. Flexibility in the specific location and dimensions of driveways should be administered through the Code's review process of future site plan/building permit applications.
7. The required building setbacks along both SR 104 and 100th Ave. W should be 12', provided that within 40' of the intersection corners the setback should increase to 15'. This additional setback would help accommodate the greater amount of pedestrian, transit and bicycle traffic that will concentrate approaching the crosswalks of the intersections. *See* Fig. 5.
8. The visual images and impressions of the "view from the road" convey a powerful message about a district's identity and sense of place. The two major places to shape these impressions for Westgate are: (a) at the gateways into the district; and (b) at the epicenter of the district, which in this case is the intersection of SR 104 and 100th Ave W.
 - (a) The "Edmonds Welcomes you to Westgate" sign that was erected during the City's centennial in 1990 was recently removed. It was located not at the entry to the district, but rather well within it, adjacent to the new Walgreens. A better location for a new district gateway sign would be further east on SR 104, closer to 95th Ave W. It would also help to move the 35 mph speed limit sign even further east, in order to help slow down westbound motorists before they enter the Westgate mixed use district.
 - (b) The WMU zoning district should amend the corner requirements for the four properties at the intersection. Strong, structural vertical elements will read best from the perspective of the motorists and take up relatively little horizontal space between the

building and the curb. Trellis, pergola or arbor treatments could incorporate signage, sculptural motifs, and banners. Such prominent visual landmarks would be a relatively small cost to projects on these corners, but collectively create a strong visual image for Westgate. See Figures 11 through 17.

9. Although further work on other parts of the SR 104 corridor will continue into the spring, the information in this memo and the Fehr and Peers Memo answers the transportation, parking and land use questions regarding Westgate. No further work on the SR 104 Corridor Study is necessary to support the Westgate conclusions in these two Memos.

II. Background

Edmonds is a city of commercial districts and residential neighborhoods. Some districts are relatively large, such as Downtown Edmonds and the SR 99 commercial corridor. Others are smaller, such as Firdale, Five Corners and Westgate. While commercial districts share some objectives, circumstances and characteristics (e.g., location on arterials and typically a mix of commercial uses), each is also somewhat unique. Some, such as the Downtown, already have multifamily residential incorporated into the land use pattern while others, such as the SR 99 corridor and Westgate, may add residential as part of the use mix.

Providing housing choices in commercial districts, in the form of mixed-use buildings and/or mixed-use projects, responds to an emerging market - Baby Boomers and Millennials. These two cohorts combined are the majority of today's U.S. population – and many have strong interest in housing choices other than the traditional detached single-family home. They would be attracted to housing opportunities in mixed-use districts with good access to transit, bicycle and walkway facilities, grocery stores, pharmacies, restaurants, banks, and other goods and services nearby. The Westgate District presently has many of these amenities.

As a state highway, SR 104 will continue to play an important role linking the regional transit system and road network to Downtown Edmonds, the WSF Terminal, and the Amtrak/Sounder station. The Washington State Department of Transportation recognizes that many segments of the state highway system serve multiple functions – not just as parts of the regional mobility system – but also as “Main Streets” for many communities in the urban area.

To evaluate potential code amendments and/or physical projects that would advance the City's objectives, it helps to begin with an understanding of Westgate's fundamental urban design structure and character. The following urban design terms have been used to describe the constituent parts of urban structure:

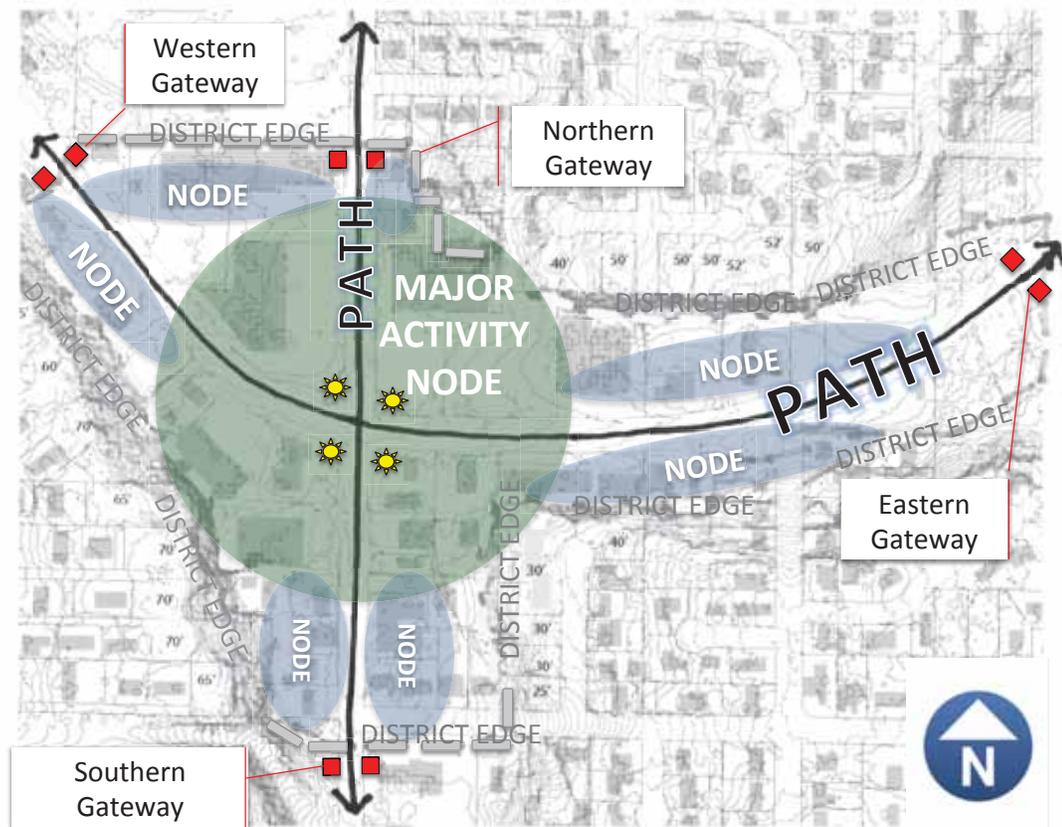
- *Districts* are geographic sections of the city with some shared and identifying character. Always identifiable from the inside, *districts* frequently have distinct boundaries or *edges* and are traversed by *paths*.
- *Edges* are the linear elements that separate districts, such as a shoreline, railroad tracks, freeways, or steep slopes.
- *Paths* are the channels along which an observer moves. They may be streets, walkways, bike lanes, or transit lines. People observe the city while moving through it, and along these paths the other environmental elements are perceived, arranged and related.
- *Nodes* are concentrations of uses or activities, often at the convergence of several *paths*, and frequently serving as destinations within a *district*.

- *Gateways* are the points or places along *paths* that serve as the entrance to a *district*.
- *Landmarks* are another type of point-reference, but an observer does not enter them – they are external. They are physical objects: a distinctive building, sign, or prominent natural feature, e.g., a very large tree or hill. While some landmarks have deliberate symbolic meaning, e.g., a large statue, many *landmarks* are simply clear and vivid objects in the environment that provide the viewer with a sense of place and orientation.

Applying this methodology to Westgate (see Figure 1) it is a *District*, similar to other Edmonds districts in some ways, but distinct in other ways. Westgate is accessed and traversed by two major *Paths* (SR 104/100th Ave. W), and bordered on the north and south by strong topographic and forested *Edges*. The *Gateways* into Westgate are not now marked with public signage, but generally occur along *Paths* where there is a distinct shift in land use. This is most clear on 100th Ave W, less so on SR 104. Finally, there are a series of land use/activity *Nodes* within the district, usually sharing localized circulation and parking areas. The largest and most prominent *Node* in Westgate consists of the four quadrants of the intersection of SR 104 and 100th Ave. W.

Unlike many urban *districts* and *nodes*, Westgate lacks prominent and vivid *landmarks*. The old “Robin Hood Lanes” sign was a prominent local landmark due to its size, shape and character. While a lot of commercial signage remains in Westgate, it serves localized functions identifying individual businesses, rather than an entire district or node. The four star symbols in Fig. 1 indicate a potential rather than an existing set of landmarks. This location, at the convergence of two major *Paths*, linking the four quadrants of the area’s major activity *Node*, is a major urban design opportunity to provide orientation, identity, and a strong sense of Westgate as a place.

Fig. 1 The Edmonds Westgate District – Urban Design Elements



III. Questions and Analysis

1. What are the long-term street lane and width requirements on SR 104 and 100th Avenue West through Westgate?

The Fehr and Peers Memo evaluates current and forecasted traffic volumes, speeds and movements on SR 104 and 100th Ave W. It concludes in relevant part:

“WSDOT sees SR 104 as a ‘Main Street Roadway’ that has a multimodal focus. Traffic forecasts and analysis show no additional through lanes or turning lanes are needed. Traffic volumes will increase along 100th Avenue W., but the traffic can be accommodated with the existing lane configuration. No additional right-of-way along 100th Avenue W. is needed to provide for traffic flow and the wider sidewalk/planter requirements.”

2. How should bicycles and pedestrians be accommodated?

The WMU should be amended to adopt a standard for bicycle racks to be provided in both residential and commercial new developments at Westgate. The wide sidewalks required as a standard for both SR 104 and 100th Ave W. will be sufficient to provide for safe and attractive pedestrian movement along the block faces. An increased setback of 15’ from the property line near the corners of the intersection will provide additional room for both pedestrian movement and amenities such as lighting standards, bollards, and street trees.

The consulting team has evaluated the opportunities for adding bicycle lanes to 100th Ave W. It would be possible to add lanes within the existing rights-of-way by restriping and making minor improvements (e.g., islands and tapers). See Figs. 2, 3 and 4.

Fig. 2 Road Diet section option for 100th Ave. W.

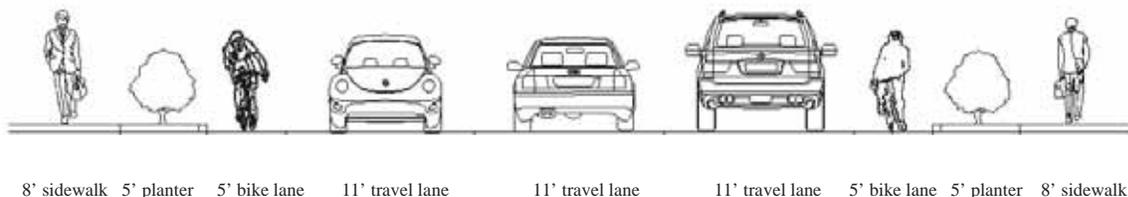
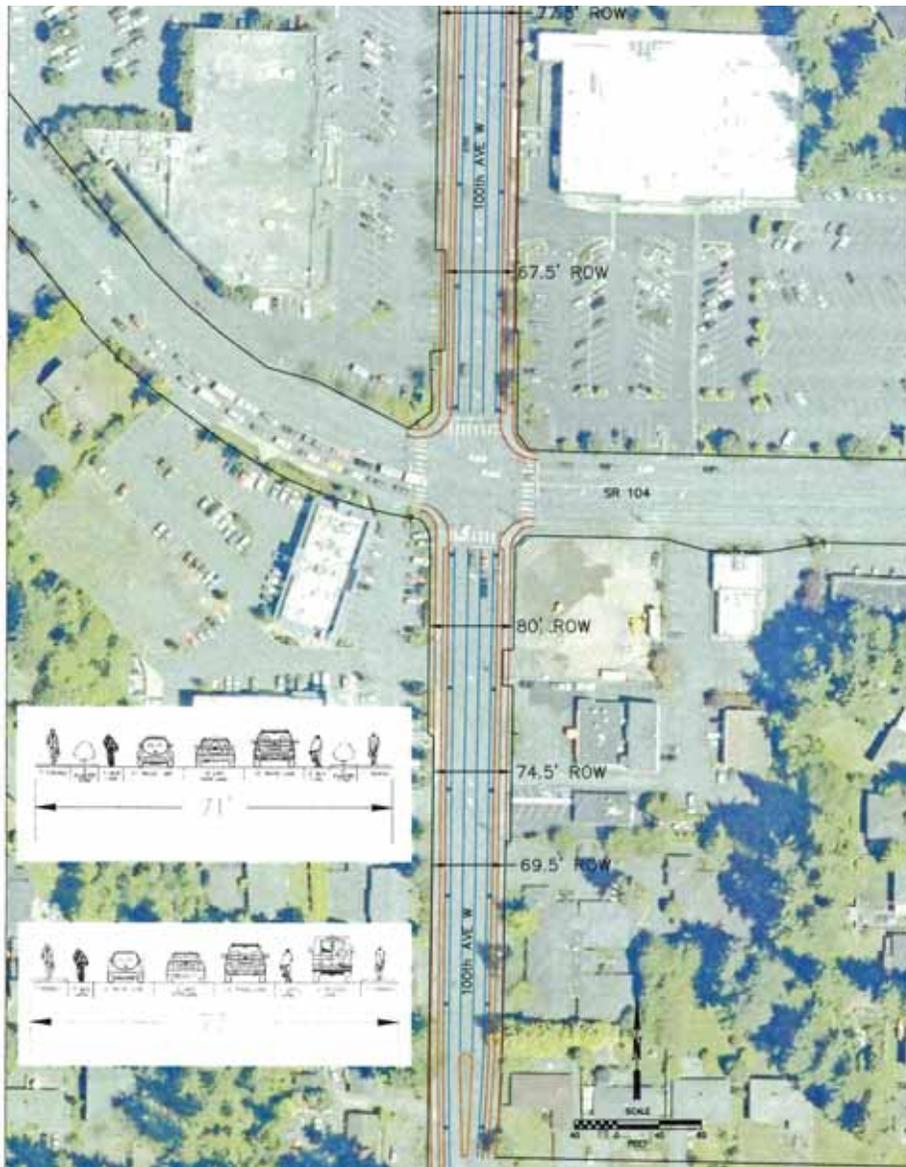


Fig. 3 Firdale Ave illustrates a section with 3 travel lanes and 2 bicycle lanes



Fig. 4 Schematic of road diet, adding bicycle lanes to 100th Ave W.



3. What should the WMU code say about building setback requirements along these two roadways?

The draft Code for the Westgate District departs from the conventions of traditional zoning, such as the default 20' front yard setback. By reducing the setback to 12 feet adjacent to SR 104 and 100th Ave W., the proposed Code brings the building facade closer to the street. This conveys that the space between the building frontage and the curb is a place for people on foot or bicycle, as opposed to automobiles.

The 12-foot setback (in combination with the 8 foot sidewalk in the right of way) provides sufficient width to accommodate safe and comfortable pedestrian movement along the block face, as well as room for benches, landscaping, tables, etc. This is illustrated in the two cross sections in Figure 5.

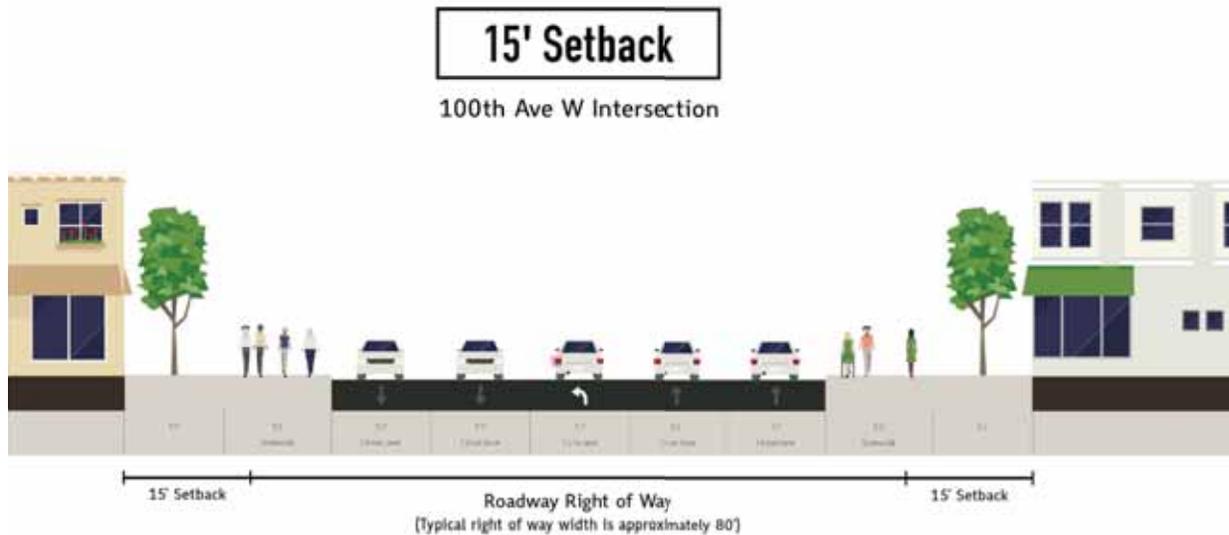
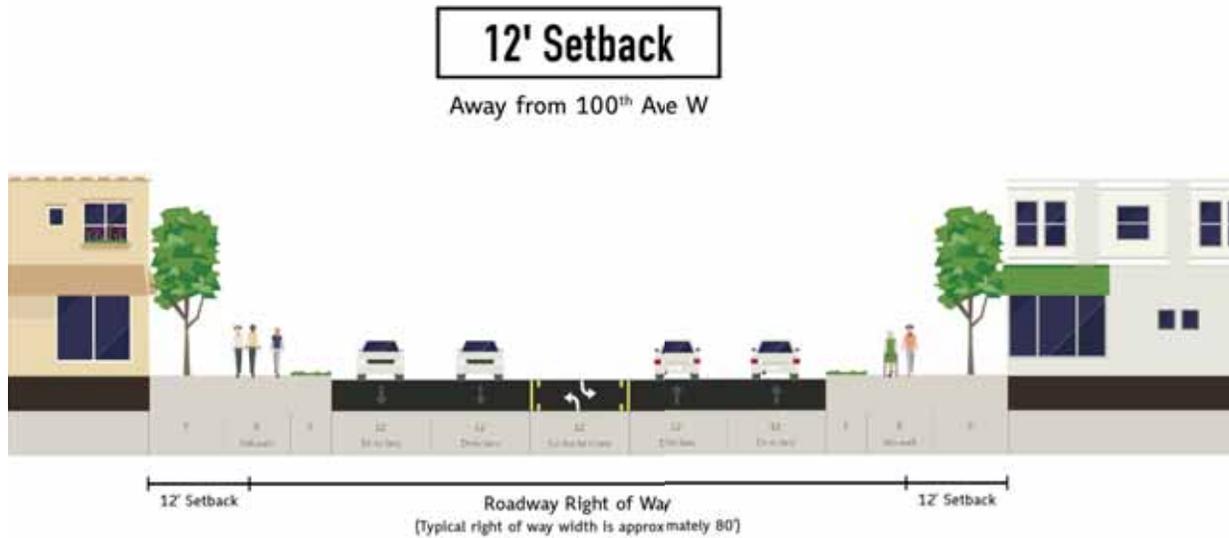


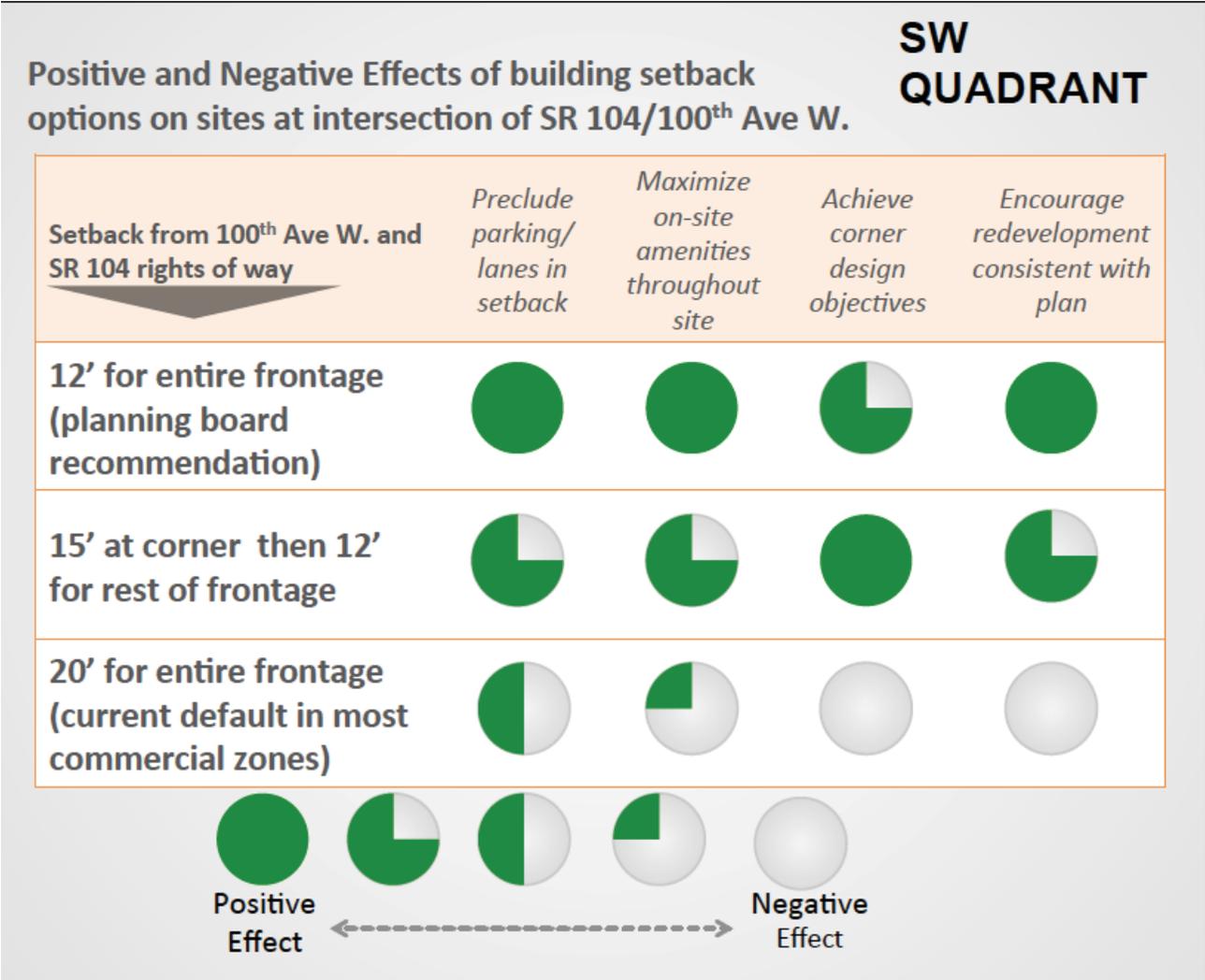
Fig. 5 Illustrative Cross Sections at SR 104/100th Ave W.

Pushing the building face further back, as the 20' setback would do, doesn't add much to the qualitative value of this frontage. Rather, it forces more of the “amenity” and “open space” away from the site interior, reducing the chance to maximize amenities throughout the site.

Another negative consequence of the 20-foot setback is to lessen redevelopment potential by reducing the gross floor area achievable. The scale of this impact is difficult to quantify – what can be said is that it does less to encourage redevelopment than the 12 foot setback.

The portions of sites within 40' of the intersection have an additional and somewhat different role than the rest of the frontage. To accommodate the greater amount of pedestrian foot and bicycle traffic (at the confluence of two crosswalks) as well as the likely entryways into the buildings, a larger setback, such as 15 feet, would be appropriate.

These observations are summarized for the SW Quadrant in the matrix below.



4. What amendments to the WMU could be adopted to highlight Westgate as a walkable, sustainable, mixed use District?

Existing conditions at the intersection of SR 104/100th Ave W. are illustrated in Figures 6 through 10. Figure 6 is an aerial perspective, while Figures 7 through 10 are ground level perspective images of the four quadrants at this intersection.

Fig. 6 Aerial perspective of intersection at SR 104/100th Ave W.



Fig. 7 NW Corner – QFC and other retail uses and restaurants



Fig. 8 NE Corner - PCC and Walgreen's Pharmacy



Fig. 9 SE Corner – Key Bank, etc.



Fig. 10 SW Corner - Starbucks, Bartells, etc.



In September of 2014, City staff drafted for Council’s consideration an additional amendment to Section 22.110.070 – Amenity Space, Open Space, and Green Factor Standards. The new paragraph D, titled SR-104/100th Avenue Intersection, focused on the private properties that immediately about this intersection and proposed language to address the types of improvements that would be appropriate.

Using that September draft language as a basis, I recommend the following revisions, shown with underlining and strikethroughs as follows:

D. SR-104 / 100th Avenue Intersection.

1. The design objectives for configuration of development, amenity space, open space, and landscaping ~~landscape construction features~~ at this key intersection ~~is intended~~ are to provide a sense of place and convey the walkable and sustainable character of ~~serve as a signal of arrival at the Westgate District area.~~
2. Building step-backs, pedestrian oriented facades and amenities are required for the portions of buildings within forty feet of the corner at each quadrant of this intersection.
3. The design objectives ~~required setback areas~~ at this intersection shall be ~~designed to use~~ addressed with a combination of landscaping, building façade treatments, public signage and amenity features (e.g. water features, art work, bollards, benches, pedestrian scale lighting, arbors, greenwalls, arcades). ~~to signify the intersection’s importance as a focal point of the Westgate area.~~

Paragraph 1 sets forth the City’s design objectives for the Westgate District : (1) to provide a sense of place and identity for Westgate and (2) to convey the desired walkable and sustainable character of the District. As the epicenter of Westgate, these four quadrants and the intersection itself play important functional and symbolic roles. The creation of distinct and memorable *visual landmarks* at these four corners can be achieved with landscape construction amenities, as discussed below. These are improvements that could be placed on the façade of new structures at the corners of the intersection, or freestanding in the open spaces between the building façade and the curb.

Paragraph 2 specifies building placement, the details of building facades, and the furnishings to be placed in the public spaces between the buildings and the curb.

Paragraph 3 identifies a menu of physical improvements and amenities that developers would be required to design and install. Below are examples of possible building facade treatments and landscape construction amenities. The specific details of a proposed design would be reviewed and approved through the City’s Design Review Process. Once a “unifying theme,” for example, a public sign or solar-powered light standard, is determined with the first development subject to this standard, it would inform appropriate facade treatments and landscape construction amenities as redevelopment occurs on the other three corners.

Figures 11 through 16 are examples of potential “landscape construction amenities” that could be incorporated into the corner designs at this key intersection. It is recommended that these figures be included in the Westgate Code to give potential developers and their designers a clear idea of the type of furnishings that the City may require for these key public spaces.



Fig. 11 Pergola



Fig. 12 Arbor



Fig. 13 Bollards



Fig. 14 Green Wall



Fig. 15 Public signage



Fig. 16 Solar lighting

An element like a pergola or arbor can also provide a location to display civic banners, public signage or lighting standards. If a major district *gateway* improvement is made, for example, at the easternmost entry into the Westgate District, it would be logical to coordinate design materials, fonts or other details with any such *landmark* improvements made at the intersection corners. One example might look like this:



Fig. 17 Potential vertical gateway/landmark feature

Many districts, nodes, and centers have utilized landscape construction amenities of this sort to provide orientation, convey character and provide local identity. See Attachment A for an example of how a similar treatment was done at the Crossroads District in Bellevue. The Bellevue example utilized low masonry walls with inset tile work on all four corners, with a more elaborate arbor and landscaping on the Northeast corner (by the Bank of America).

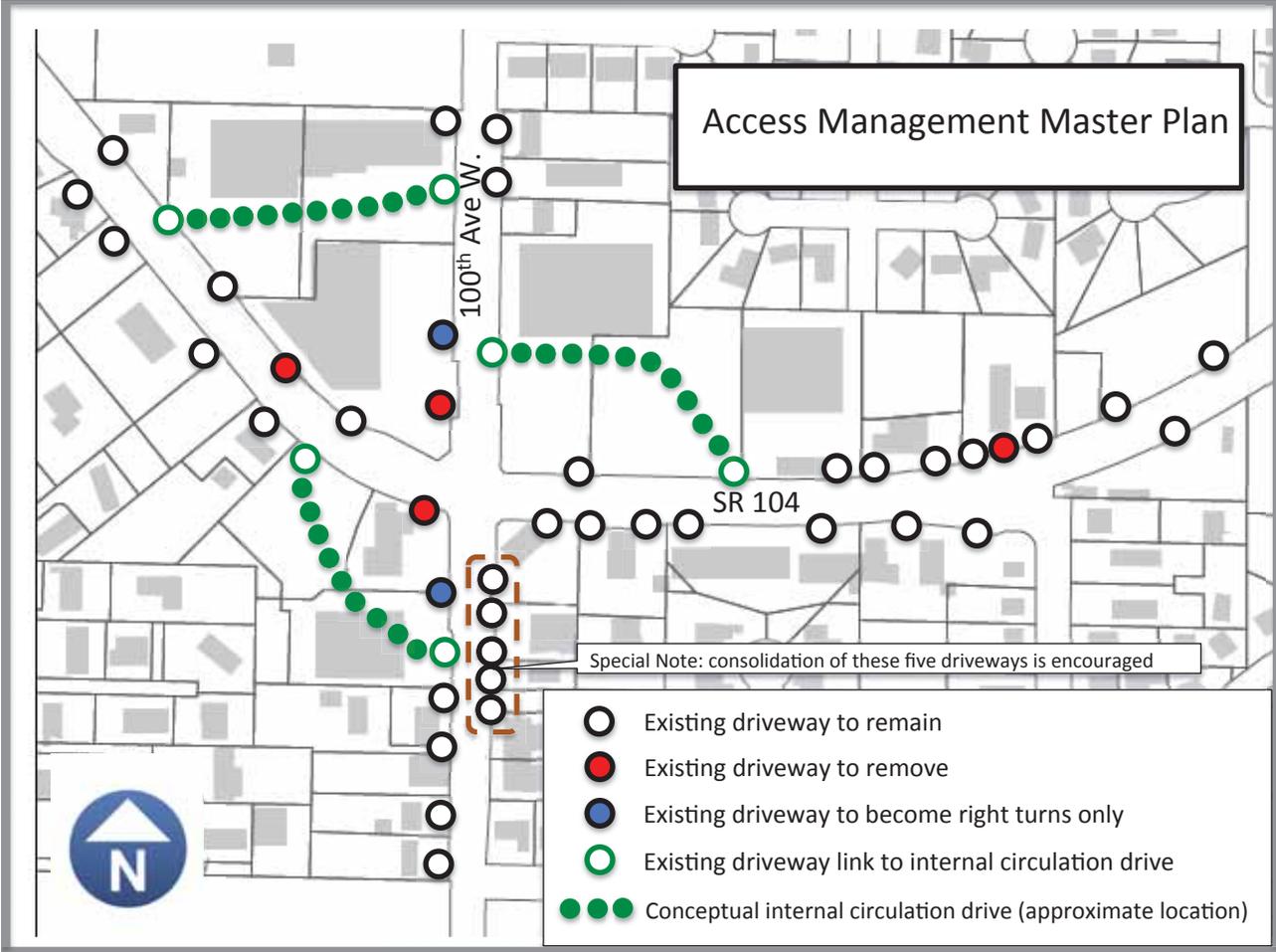
5. How should property access and internal circulation be handled?

Access management to properties in Westgate will be important for safe and efficient travel within and between the four quadrants. The number, location and permitted turning movements into and out of driveways on 100th Ave W. and SR 104 should be controlled by the Westgate

Access Management Master Plan (AMMP) See Figure 18. As permits are processed for properties in the WMU, existing driveways may be required to be relocated, reconfigured or eliminated to achieve the City’s access management objectives.

Internal circulation within the four quadrants will also be controlled by the AMMP. Internal circulation drives will be subject to the dimensions and features specified at 22.110.050, and shall connect with the driveways as identified or modified in the AMMP. The specific placement of the internal circulation drives will be evaluated and approved as part of the design review process for permit applications within the WMU zone.

Fig. 18 Westgate Access Management Master Plan



6. What is the appropriate parking standard for commercial uses in the Westgate district?

As previously noted, Westgate shares some attributes with Downtown Edmonds and the SR 99 corridor, such as access by a state highway, transit availability and a mix of commercial activities. It is noteworthy that, compared to most other districts in Edmonds, Westgate is a very walkable district. The national Walk Score methodology measures how many daily errands can be accomplished on foot, based on the availability and proximity of typical destinations to residences. See Fig. 19.

A major premise of the proposed innovative approach to mixed-use zoning is to tailor regulations to recognize a district’s unique circumstances, attributes and objectives. In recognition of Westgate’s high walkability, access to transit, and potential for bicycle access, the Planning Board recommended that the WMU zone have a blended parking ratio of 1 stall for each 500 sq. ft. of commercial floor area. In view of Westgate’s existing and emerging multi-modal character, this appears to be a reasonable parking standard.

It has been suggested that perhaps a ratio of 1 stall per 400 sq. ft. would be appropriate, since that ratio was considered for Edmonds’ SR 99 corridor. However, as noted in Figure 18, the Westgate District is a more walkable area than the SR 99 corridor. The land use pattern of the SR 99 corridor includes very large parcels with great parcel depth back from the state highway. While the SR 99 corridor does have some uses that would be assets for a mixed-use neighborhood, such as grocery stores and restaurants, they are interspersed with institutional and auto-oriented uses (health care offices, auto sales and service). The overall large lot pattern means that walking distances are greater. In contrast, the parcels at Westgate are much smaller and most of the mix of uses (e.g., grocery stores, pharmacies, restaurants) are within a much more walkable distance.

Fig. 19 Walk Score Ranges in Edmonds

Walk Score			Edmonds Districts
90 to 100	Walker’s Paradise	Daily errands do not require a car	
70 to 89	Very Walkable	Most errands can be accomplished on foot	Downtown Edmonds (81) Westgate (70)
50 to 69	Somewhat Walkable	Some errands can be accomplished on foot	SR 99 – Starbucks (64) SR 99 - Ranch Market (59) Firdale (56)
25 to 49	Car dependent	Most errands require a car	SR 99 – Whirlyball site (49) Five Corners – (42)
0 to 24	Car dependent	Almost all errands require a car	

Given that development and redevelopment at Westgate will occur over a number of years, there is little risk in adopting the 1 stall per 500 square feet of commercial floor area. If experience warrants, it would be a relatively simple matter for the City to amend the WMU parking ratio.

Fig. 20 Intersection detail



This intersection carries comparable traffic volumes but has been improved with patterned pavement crosswalks to enhance pedestrian visibility and safety. At each of the four corners, the developers were required to incorporate into their site plans landscape construction improvements including an arbor and benches on the NE corner, and vegetation and low masonry walls with inset tile work on all four corners.

Fig. 21 Crosswalks include patterned pavement

Fig. 22 NW corner – Crossroads in Bellevue



Fig. 23 NE corner – Crossroads in Bellevue

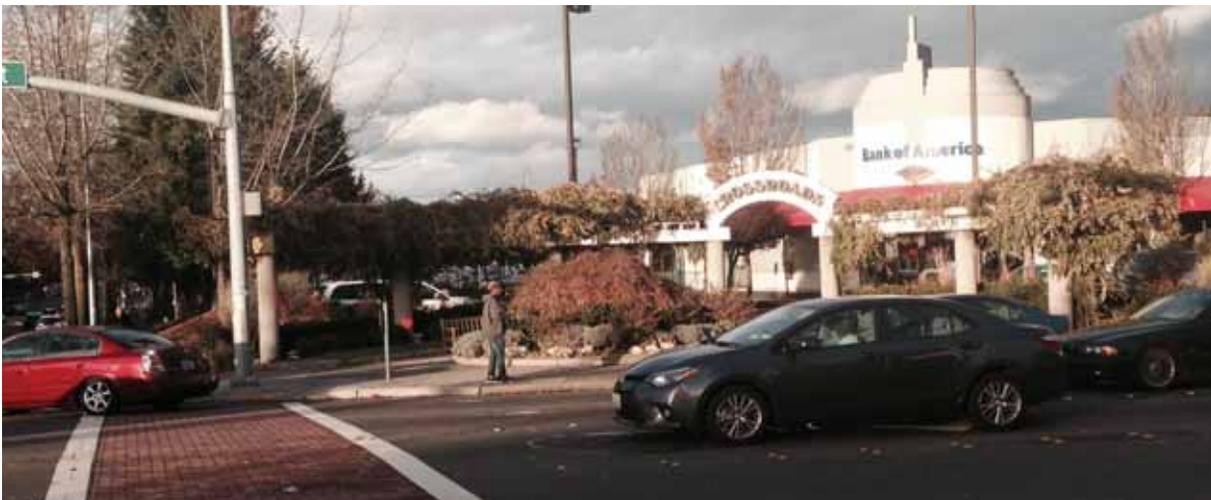


Fig 24 SW corner - Crossroads in Bellevue



Appendix D

Level of Service Calculations

Intersection	Control	LOS Standard	2015			2035			2035 Improvements		
			PM		PM		PM		PM		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
SR 104 & 100th Ave.	Signal	D	26	C	41	D		41	D		
	Side Street Stop	D	50	E	>150	F	Install Signal. Provided protected NB/SB left turns	11.9	B		
SR 104 & 76th Ave	Signal	D	23	C	77	E	Add 325' WB to NB right turn lane. Provide NB to EB right turn overlap with WB left.	47	D		
Main St. and Sunset Ave.	Signal	D	7	A	8	A		8	A		
SR 104 & Dayton	Signal	D	8	A	10	B		10	B		
SR 104 & 226th St	Signal	D	11	B	16	B		16	B		
SR 104 & 95th PIW	Signal	D	7	A	12	B		12	B		
SR 104 & 236th St SW	Signal	D	5	A	13	B		13	B		