Incremental Implementation Strategy

7

145th Street Station Subarea Plan

The Pearl District's Transit-Oriented Development in Portland, Oregon.

This chapter of the 185th Street Subarea Plan focuses on planning and implementation actions that need to be completed over the next twenty years to serve growth in the subarea, including system planning updates, coordination and outreach, exploration of partnership opportunities, capital improvements, and other activities.

Planning Horizon: Year 2035

Build-out of the proposed zoning described in Chapter 5 for the subarea, will take many decades to be realized (55 to 87 years at 1.5 percent to 2.5 percent growth). Proposed actions in this chapter of the subarea plan anticipate the level of change that will occur over the next twenty years after adoption of the plan—by 2035. Understanding impacts and necessary mitigations in this 20 year timeframe will allow the City to prioritize capital projects in the near term; analyzing impacts of full build-out also provides an understanding of long-term needs. If development happens more quickly than the projected growth rate, the City knows what mitigations need to be implemented by developers. If at some point in the future proposed development would exceed the level analyzed in the EIS process, additional analysis of impacts and requisite improvements would need to be performed before projects could move forward.

2015 to 2018

1. System Plan and Capital Improvement Plan Updates
2. Coordination and Outreach
3. Partnerships Opportunities
4. Some Redevelopment Could be Planned and Designed
5. Design of Light Rail Station and System

2019 to 2023

1. 2. 3. and 4. Continue, and:

6. Some Redevelopment May Be Constructed
7. Construction of Light Rail Station and System
8. Light Rail Operating by 2023

2024 to 2035

1. 2. 3. and 4. Continue, and:

9. More Redevelopment Constructed Up to 2,190 New Households and 1,850,000 Gross Square Footage of Retail Space Projected
10. Light Rail Ridership Continues to Build with Redevelopment

Anticipated Growth and Change over the Next Twenty Years

Within the twenty-year planning horizon through 2035, there are three important timeframes and anticipated activities within each to consider.

2016 TO 2019

The first three years after plan adoption, system plans will need to be updated such as transportation, sewer, water, and surface water master plans. The City's Parks, Recreation, and Open Space (PROS) Plan is currently in the process of being updated and is already anticipating the potential growth in the two station subareas (at 145th and 185th Streets). The City's and other service providers' capital improvement plans will be updated to reflect the new projects that will be needed to support the subarea. This will also be an intensive time of coordination and outreach with agencies, service providers, property owners, etc. The City and other agencies will seek funding for capital projects and move forward with implementing them. The City also will be exploring possible partnerships in redevelopment activity, such as with non-profit affordable housing providers and environmental organizations for restoration opportunities.

The light rail station and system will be going through final design. Sound Transit intends to host a series of three workshops at various stages of design to present the most current information to the City and community and get feedback. Sound Transit will also likely begin acquiring property and initial stages of construction during this timeframe.

Some property owners may move forward with redevelopment or work with other property owners to aggregate parcels to sell for redevelopment. There could be more of a focus in areas closest to the station or on larger parcels that can accommodate redevelopment without aggregation.

2020 TO 2024

During this five-year timeframe, some continued systems planning and capital improvement plan updates would occur according to their normal cycles. The City and other agencies will continue to fund and implement capital projects to support growth.

The City will continue to coordinate with and provide outreach to agencies, service providers, and property owners, and also will regulate planning, design, and construction of redevelopment projects. Some property owners may move forward with redevelopment or work with other property owners to aggregate parcels to sell for redevelopment.

The City also will continue to explore potential partnerships in redevelopment and a partnership project could move forward. Examples of partnership projects might include development of regional surface water facilities to serve the subarea, supporting an affordable housing project, and working with Sound Transit to include some community uses and active uses as part of station and park-and-ride development.

Also during this timeframe, some redevelopment may move forward into construction, with some likely timed for completion toward the opening of light rail. There may be more of a continued focus on properties immediately surrounding the station, as well as on some of the larger parcels that can accommodate redevelopment without aggregation.

Construction of the light rail station and system would progress toward completion and operation of the system by 2023. Existing and new residents and employees in the subarea would be able to access the station via improved streets, intersections, and sidewalks. It is hoped that people from the subarea will primarily walk and bicycle to the station given improvements planned by Sound Transit and the City. People from the outer reaches of the subarea and from throughout the surrounding region (including the

Modes of trnsportation to and from the City of Shoreline are expanding.

Paramount Park P-Patch

rest of Shoreline, west Lake Forest Park, and North Seattle) will access the station via improved local transit connections and park-and-ride. Bike share and car share programs may be implemented.

2025 TO 2035

The ten-year timeframe after light rail begins operating likely will result in more change and redevelopment activity in the subarea than the previous ten years before 2024. During this ten-year timeframe, systems planning and capital improvement plan updates would occur according to their normal cycles. The City and other agencies will continue to fund and implement capital projects to support growth.

The City will continue to coordinate with and provide outreach to agencies, service providers, and property owners, and also will regulate planning, design, and construction of redevelopment projects. The City may be involved in specific redevelopment project implementation as described for the 2019 to 2023 timeframe.

Redevelopment throughout the subarea (where the new zoning has been adopted) will continue. There may continue to be more of a focus on larger parcels and areas surrounding the station, but redevelopment may also occur elsewhere throughout the subarea. In accordance with the anticipated pace of average annual growth of 1.5 percent to 2.5 percent, it is estimated that there could be up to 2,214 new households/housing units and up to approximately 550,000 additional gross square feet (GSF) of ground-floor/street-level active uses such as retail, professional office, and neighborhood services developed in the subarea as part of new projects as shown in the **Table 7-1**. Total estimated population and numbers of employees in the subarea are also depicted in the table.

The light rail system will continue to operate, with continuous building ridership coming from existing and new residents and employees in the subarea. With ongoing improvements to streets, intersections, and sidewalks throughout the subarea, more and more people will be able to walk and bicycle to the station, while some from the outer reaches of the subarea and from throughout the surrounding region will access the station via improved local transit connections and park-and-ride. Bike share and car share programs may be in place by this time.

TABLE 7-1: Projected Population, Households, Employees, and GSF Active Uses in the Subarea by 2035

	1.5 TO 2.5 PERCENT AVERAGE ANNUAL GROWTH
2035 New Population	+2,886 to 5,314 More People*
2035 New Housing Units	+1,203 to 2,214 More Housing Units*
2035 New Employees	+585 to 1,083 More Employees * in Approximately 550,000 GSF
2035 Total Population	11,207 to 13,635 Total People
2035 Total Households	4,670 to 5,681 Total Housing Units
2035 Total Employees/ GSF of Active Use	2,180 to 2,678 Total Employees in up to Approximately 1,350,000 GSF

** Above current levels of population, housing units, employees, and ground floor active space in the subarea. Numbers include redevelopment in the area of adopted zoning in the subarea, as well as in subarea portions of the Traffic Analysis Zones (TAZs) that encompass the subarea.*

Near Term Planning Actions

With adoption of this subarea plan, the City also is amending its Comprehensive Plan and Municipal Code to reflect the adopted change in land use and zoning. The City will continue to review and evaluate how development standards and regulations in the Code are being applied with redevelopment and may modify these as time goes by to correct deficiencies and enhance compatibility.

In addition to these activities, the City and agencies such as Shoreline Water District, Seattle Public Utilities, Ronald Wastewater and other service providers will be updating their systems plans to reflect the adopted zoning and anticipated growth in the subarea. The agencies and service providers will explore funding and implementation options and monitor the pace of redevelopment to ensure that systems and facilities are upgraded incrementally to support the new growth as it occurs.

Likewise, the City will update its Capital Improvement Plan to reflect prioritization of the improvements needed in the subarea and continually monitor redevelopment, completion of capital improvements, and ongoing improvement needs in the subarea. The City also will update systems plans, including the Parks, Recreation, and Open Space Plan; Surface Water Master Plan; and Transportation Master Plan. The City will work to fund and complete key planning and design projects such as the 145th Street Corridor Project. Estimated costs for planning and plan updates are listed at the end of this chapter.

Coordination and Outreach

The City will continue to coordinate and provide information and outreach to agencies, service providers, property owners, and the general community. City staff will provide ongoing updates on progress of plan implementation and redevelopment activity in the subarea. During the first three years after adoption, it will be particularly important to closely coordinate with these entities to monitor improvements being made and to estimate the potential pace of redevelopment activity. During the first year after adoption of this plan, the City will need to provide ongoing coordination and outreach and schedule specific meetings with entities such as:

- Sound Transit
- Washington State Department of Transportation
- Shoreline School District
- Seattle City Light
- Property Owners
- Shoreline Water District
- Seattle Public Utilities
- Ronald Wastewater District
- Energy and communications service providers
- Solid waste management contractor(s)
- Interdepartmental representatives at the City from Transportation, Surface Water, Utilities, Parks and Recreation, and other departments
- Human and social services providers

The City will continue to provide outreach to individual property owners through community engagement activities (website updates, periodic public meetings, news articles, etc.)

Potential Transit-Oriented Redevelopment

Exploring Potential Partnerships

The City will be moving forward with capital improvement planning and implementation, but also may find opportunities to support redevelopment and be engaged in projects as a key partner. Examples of partnership projects might include development of regional surface water facilities to serve the subarea (which can be combined with urban park solutions), supporting an affordable housing project, and working with Sound Transit to include some community uses and active uses as part of station and park-and-ride development.

Specific partnership projects are not defined in detail at this stage. Considering options and reaching conclusions about how the City can be involved to support and implement projects through various partnerships should be a focus over the next one to three years and beyond. This would include potential partnerships with public agencies, nongovernmental organizations, and private entities. "Partnership" could entail provision of in-kind services, waiving of fees or certain requirements to help facilitate implementation, property acquisition, funding/financial involvement, and/or providing a specialized level of support to key projects.

Capital Improvement Project Recommendations Based on Expected Growth through 2035

While overall the subarea zoning would not be expected to build out for approximately 55 to 87 years, improvement needs for the next twenty years have been defined based on the 1.5 to 2.5 percent growth rate projected for the subarea.

The assumed growth rates are based on historical trends in the region and may fluctuate around the average of 1.5 and 2.5 percent annually depending on actual market conditions. Additionally, while the analysis assumed an equal distribution of development throughout the subarea, particular parcels may redevelop at a higher or lower rate than the average. The length of time until full build-out of the subarea plan will enable the City and other agencies and service providers to monitor growth and proactively plan for needed improvements. This should occur as development proceeds in order to provide a sustainable and efficient infrastructure system within the subarea, and so that public services like parks and schools can keep pace with growth.

In the meantime, the next twenty years will bring an important focus on funding and implementing projects to support anticipated growth through 2035. This plan forecasts capital improvements needed to accommodate existing uses and redevelopment over the next twenty years. This includes expansion of and improvements to the transportation system, utilities such as water, sewer, surface water, energy, and communications, as well as parks and recreation and other public services. Anticipated capital improvement needs are described on the following pages for:

- Transportation System
- Utility Systems
- Parks, Recreation, Open Space and Other Areas of the Public Realm
- Schools and Other Public Services

Recommended capital improvements are based on planning level analysis. These will need to be further evaluated and confirmed through systems plan updates by agencies and service providers.

Multimodal Transportation System Improvement Needs

Existing and planned transportation system conditions are described in Chapter 3 of this plan. In addition to projects that are already planned, new capital improvements will be needed over the next twenty years to serve anticipated growth and redevelopment in the subarea. Estimated increases in PM Peak period trips and trip rates per mode are shown in the **Table 7-2** for the next twenty years through 2035 and for the full build-out of the subarea.

GROWTH FORECASTS

The proposed land use plan for the subarea was referenced to projected multimodal transportation improvement needs for the next twenty years. An assumed average growth rate of approximately 2 percent was based on historical trends in the region, however this may fluctuate between 1.5 and 2.5 percent depending on actual market conditions. Actual distribution of development would impact where and when specific roadways and areas would experience a change in travel patterns.

TABLE 7-2: Percentage of Trips by Mode and GHG Emissions

	EXTERNAL[1] WALK/ BIKE TRIPS	EXTERNAL TRANSIT TRIPS	INTERNAL TRIPS	EXTERNAL AUTO TRIPS	TOTAL PM PEAK TRIPS GENERATED	EXTERNAL PM AUTO TRIPS GENERATED	PER CAPITA GHG (METRIC TONS / 100 HOUSEHOLDS)
First Twenty Years (Up to 2035)	7%	8%	18%	67%	7,850	5,280	3.0
Subarea Overall	12%	10%	23%	55%	18,061	10,160	2.6

[1] External trips are assumed to start or end outside of the study area. By contrast, internal trips both start and end within the study area.

AVERAGE DAILY TRAFFIC AND INTERSECTION LEVEL OF SERVICE

As shown in the tables on the next page, additional trips resulting from growth and redevelopment over the next twenty years would increase average vehicle delay at intersections and along roadways, particularly along N/NE 145th Street. However, many intersections would still operate at or better than LOS D during the PM peak period.

Congestion along N/NE 145th Street and other streets would be influenced by actual development patterns and how this new development is accessed. While impacts from light rail implementation are addressed in the Lynnwood Link Extension FEIS, the following section identifies specific steps the City may take to address any potential impacts related to land use development within the subarea over the next twenty years.

MULTIMODAL TRANSPORTATION IMPROVEMENTS AND ACTIONS NEEDED IN THE NEXT TWENTY YEARS

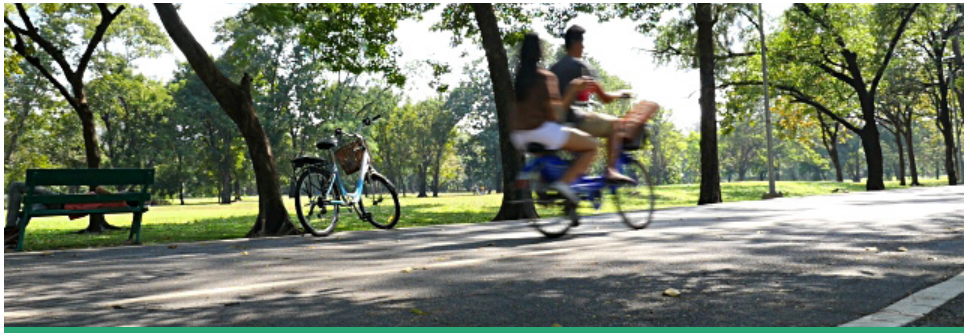
A gradual level of growth and change is expected for the subarea in the coming decades. Over the next twenty years and beyond, the City and other transportation service providers will be closely monitoring growth and proactively planning for needed improvements. Multimodal transportation improvements and actions that would be needed over the next twenty years would include upgrades to roadway segments and intersections and pedestrian facilities. Transit service, bike and car sharing programs, traffic calming features, and parking management actions also will need to be implemented gradually over the next twenty years.

Table 7-3: Projected PM Peak Period Intersection Level of Service for the Next Twenty Years

SIGNAL TYPE	INTERSECTION	EXISTING LOS / DELAY (SEC)	NO ACTION LOS / DELAY (SEC)	20-YEAR ALT2 LOS / DELAY (SEC)	20-YEAR ALT3 LOS / DELAY (SEC)	20-YEAR ALT4 LOS / DELAY (SEC)
Signalized	145th St / Meridian Ave	B / 16	D / 55	F/270	F/250	F/240
Signalized	145th St / 1st Ave	B / 18	E / 57	F/123	F/100	F/95
Signalized	145th St / SB I-5	D / 46	E / 66	E/70	E/70	E/74
Signalized	145th St / 5th Ave	D / 42	F / 81	F/100	F/100	F/110
Signalized	5th Ave / I-5 NB On-ramp	A / <10	A / <10	A / <10	A / <10	A / <10
Signalized	145th St / 15th Ave	E / 60	F / 94	F/106	F/102	F/102
Signalized	150th St / 15th Ave	B / 16	C / 21	B/13	A/9	B/17
Signalized	155th St / 15th Ave	C / 30	D / 37	D/48	D/47	D/46
Signalized	155th St / 5th Ave	B / 10	B / 17	B/17	B/16	B/17
Unsignalized	155th St / 1st Ave	C / 21	E / 49	F/105	F/93	F/113
Signalized	155th / Meridian	B / 14	C / 27	D/42	D/47	D/51

Notes: Large delay values (over 240 seconds) rounded to the nearest ten; Level of Service results do not incorporate improvements identified in the 145th Street Multimodal Corridor Study

The City, Sound Transit, and other agencies will be making capital improvements in the subarea as the light rail station is constructed. Other improvements and actions would gradually be incorporated as development occurs to provide a sustainable and efficient transportation system in the subarea. All new development will go through the standard review process and would only be approved with necessary and appropriate infrastructure investments provided by the development.



Bicyclists in Shoreline

Table 7-4: Projected Average Daily Traffic Volumes and PM Peak Period Congestion for the Next Twenty Years

STREET	SEGMENT	EXISTING PM PEAK HOUR VOLUME/VC RATIO[2]	NO ACTION PM PEAK HOUR VOLUME/VC RATIO	20-YEAR ALT2 VOLUME/VC RATIO	20-YEAR ALT3 VOLUME/VC RATIO	20-YEAR ALT4 VOLUME/VC RATIO
EAST-WEST CORRIDORS						
N/NE 145th Street*	West of I-5	1,330 / 0.81	1,650 / 1.00	1820 / 1.10	1790 / 1.08	1800 / 1.09
NE 145th Street*	East of I-5	1,430 / 0.87	1,630 / 0.99	1710 / 1.03	1700 / 1.03	1730 / 1.05
N 155th Street	West of I-5	540 / 0.60	700 / 0.73	750 / 0.79	740 / 0.78	780 / 0.82
NE 155th Street	East of I-5	490 / 0.61	610 / 0.64	620 / 0.65	620 / 0.65	630 / 0.66
NORTH-SOUTH CORRIDORS						
5th Avenue NE*	I-5 NB on-ramp to 155th Street	530 / 0.76	670 / 0.96	700 / 1.00	700 / 1.00	730 / 1.04
15th Avenue NE	145th to 150th Street	1,040 / 0.52	1,290 / 0.65	1310 / 0.66	1320 / 0.66	1340 / 0.67
15th Avenue NE**	150th to 155th Street	880 / 0.73	1,150 / 0.96	1160 / 0.97	1170 / 0.97	1180 / 0.98
Meridian Avenue N	145th to 155th Street	390 / 0.56	650 / 0.78	740 / 0.88	720 / 0.86	730 / 0.87

Notes: Traffic volumes and congestion level results shown above do not incorporate improvements identified in the 145th Street Multimodal Corridor Study. These improvements and others recommended in this plan will address the traffic congestion and service needs to improve level of service

* N/NE 145th Street and the portion of 5th Avenue NE between NE 145th Street and the I-5 northbound on-ramp is exempt from the City of Shoreline's concurrency standard due to being within WSDOT jurisdiction.

** The City allows a V/C ratio of 1.10 for 15th Avenue NE, between NE 150th Street and NE 175th Street due to rechannelization for operational safety.

[2] One-directional volume only, signifying the direction with the highest volume

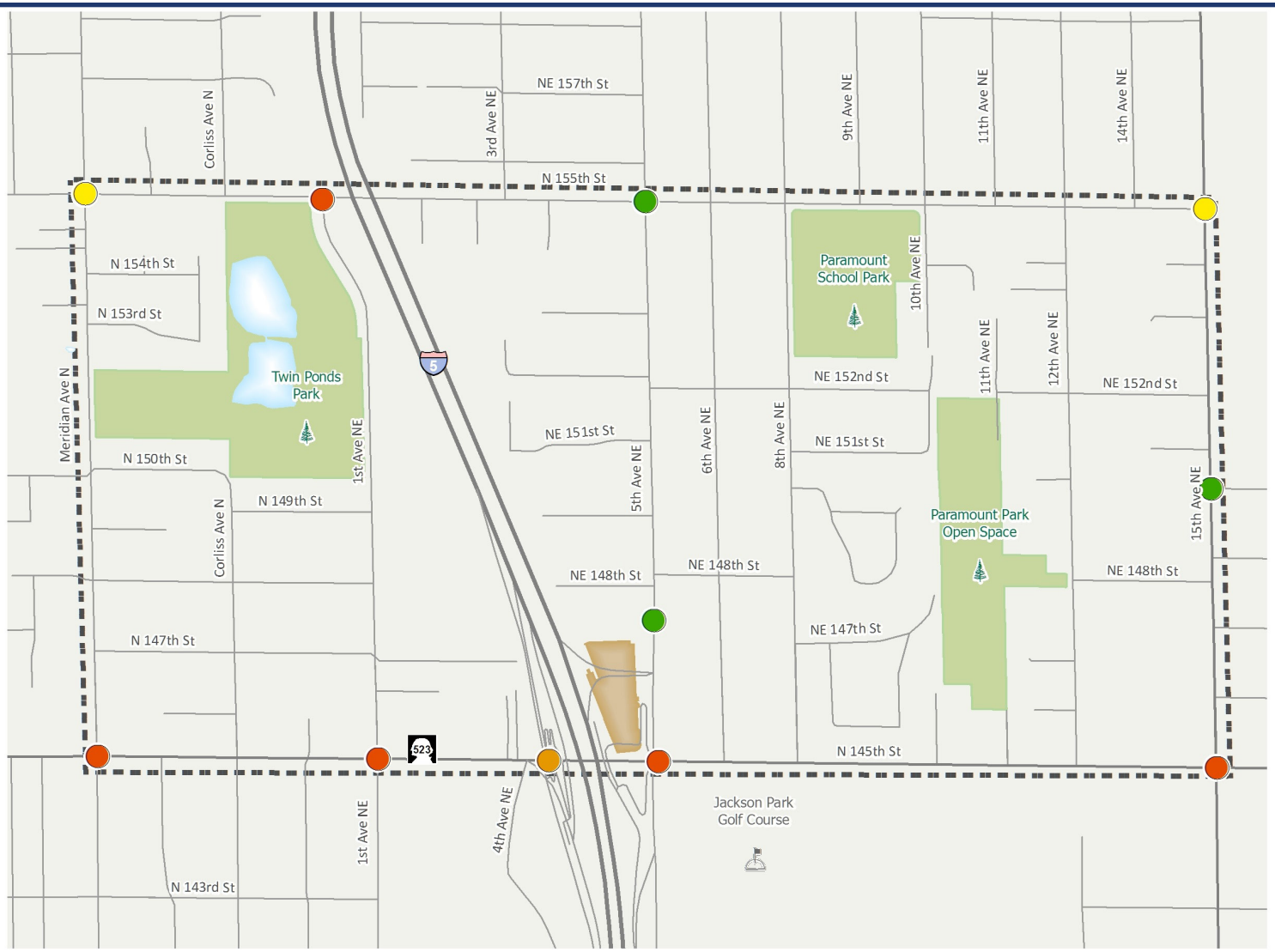


FIGURE 7-1: Average Daily Traffic and PM Peak Congestion for the First Twenty Years (up to 2035)

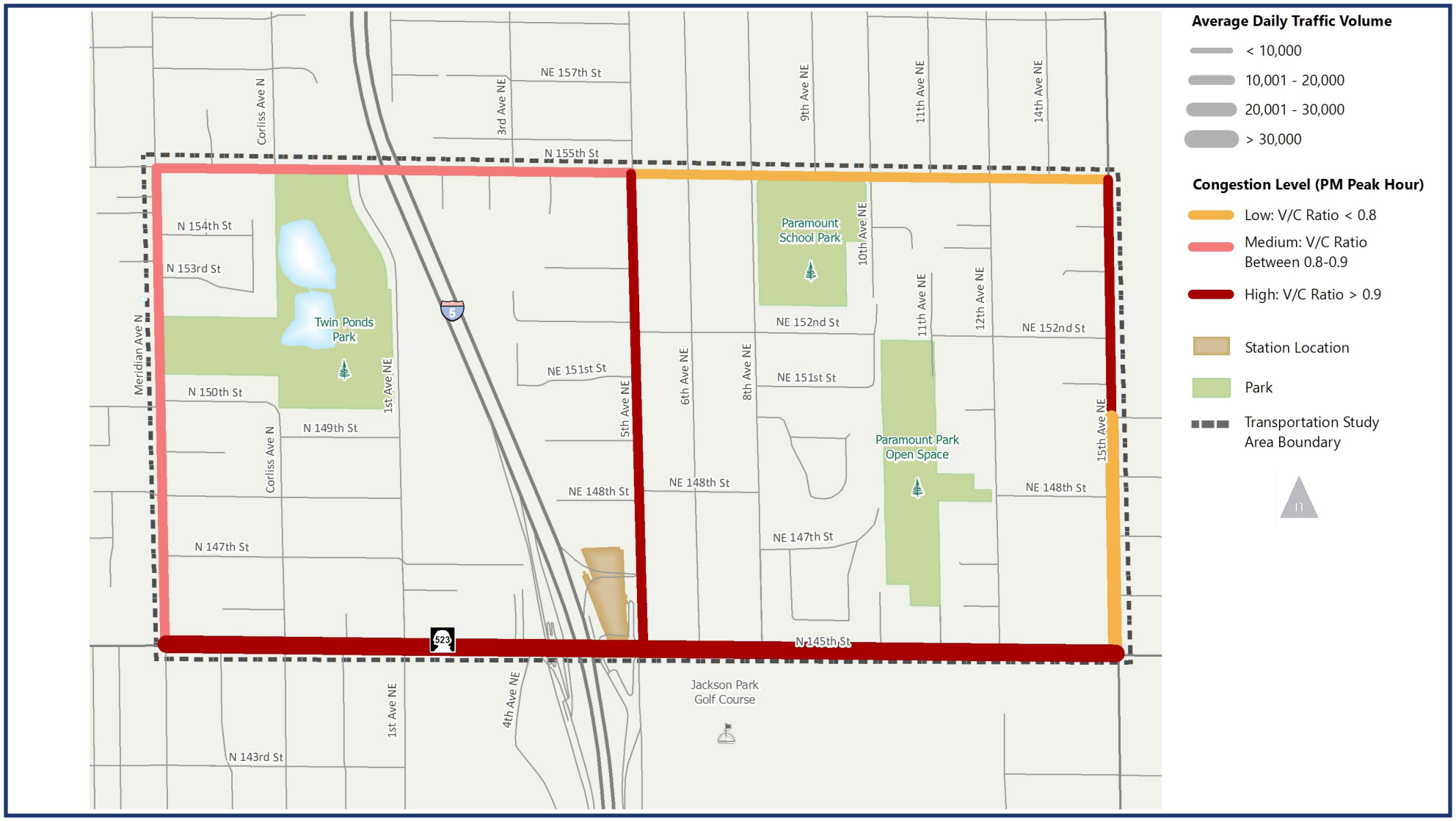
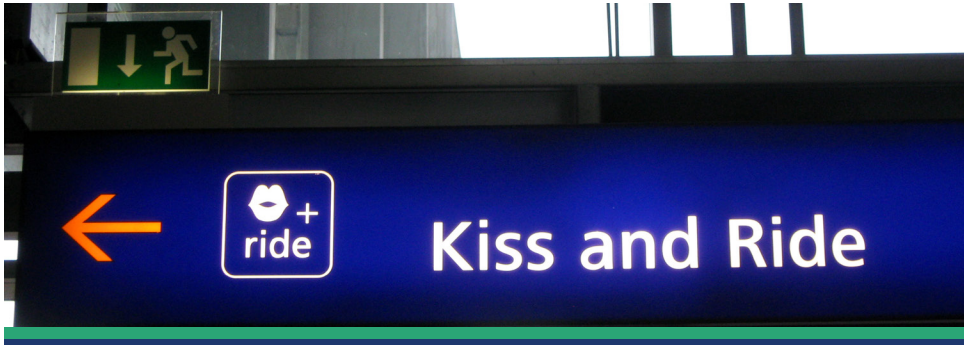


FIGURE 7-2: Intersection Level of Service for the First Twenty Years (up to 2035)



Kiss and RIde Sign

MULTIMODAL TRANSPORTATION ACTIONS AND IMPROVEMENTS RECOMMENDED FOR THE SUBAREA OVER THE NEXT TWENTY YEARS

In addition to the roadway improvements called out in the TMP, the following measures are recommended for subarea over the next twenty years.

N/NE 145TH STREET

Implement recommendations from the 145th Street Multimodal Corridor Study including:

- Traffic signal improvements at the intersections at Meridian Avenue N and 1st Avenue NE
- Improved signalized intersections which will include new left turn lanes, right turn lanes, and signal timing changes for the portion between Aurora Avenue N and NE 15th Avenue NE
- Transit signal priority along the corridor
- Revised interchange at I-5 with a button-hook on-ramp to allow eastbound 145th Street to northbound I-5 traffic to turn right onto 5th Avenue NE and loop under the bridge
- Additional left-turn storage on existing bridge over I-5
- New eastbound right-turn lane to southbound I-5
- New southbound off-ramp right turn lane
- New westbound right turn lane at 5th Avenue NE
- Grade-separated crossing for non-motorized traffic over the SB I-5 off-ramp
- New bridge deck for 145th Street over I-5 that includes a multi-use trail on the north side
- Sidewalks upgraded to meet City standards
- Westbound BAT lane/queue jump lane east of 5th Avenue NE
- Eastbound BAT lane/queue jumps east of 15th Avenue NE
- Wheelchair accessible bus stops
- Off-corridor bike network
- Restricted left-turn access mid-block east of 5th Avenue NE

N/NE 155TH STREET

- Consistent with the TMP, extend the two-way left turn lane from 5th Avenue NE to 15th Avenue NE with bicycle lanes
- Construct a northbound right-turn pocket at the intersection of N/NE 155th Street and 1st Avenue NE
- Consider signalization or a roundabout at the intersection of N/NE 155th Street and 1st Avenue NE

5TH AVENUE NE

- Construct a two-way left turn lane from the I-5 NB on-ramp to N/NE 155th Street

MERIDIAN AVENUE N

- Consistent with the TMP, convert Meridian Avenue N to a three-lane profile with a two-way left-turn lane and bicycle lanes

BICYCLE AND PEDESTRIAN FACILITIES

- Implement recommendations for the off-corridor bike network from the 145th Street Multimodal Corridor Study referenced in the previous section (see proposed network next page).

With redevelopment, the City intends to improve overall pedestrian and bicycle connectivity by allowing for more dedicated pathways with parcel consolidation and expanded development. Any new large-scale development in the area under the proposed zoning should consider pedestrian and bicycle paths through the sites to allow for connections to the station and subarea amenities without the need to travel along busy arterials.

The City is interested in exploring opportunities for bicycle sharing and bicycle storage facilities near the station to encourage and enhance bike access to transit.

TRAFFIC CALMING

The City will engage as needed in traffic calming measures along non-arterial streets to prevent cut-through traffic both to the light rail station and the new development sites. The City of Shoreline has a Neighborhood Traffic Safety Program to help address the safety concerns on residential streets stemming from higher speed and/or cut-through traffic. This program includes enhanced enforcement and education, along with engineering solutions such as traffic circles, speed humps, and narrowed lanes. Solutions to address traffic issues are discussed and implemented as part of a public process to ensure they appropriately address a given circumstance.

TRANSIT SERVICE AND CAR SHARING PROGRAMS

Depending on final design of the station, ample bus pull-out and layover space should be provided to maintain operations efficiency and prevent spillover impacts to the roadway network.

Seattle Bike Share

Transit service integration and improvements will be an important priority after the light rail station is operating. As part of the Transit Service Integration Plan (TSIP) currently under development, the City will be working with transit service providers to ensure transit vehicles can operate efficiently through the subarea. Strategies these agencies may employ include the construction of signal priority systems, queue jumps, and bus bulbs. The City of Shoreline will continue coordinating with area transit agencies in the development of a TSIP for the light rail station subarea. This coordination should coincide with ongoing traffic monitoring and analysis to ensure transit service reliability along the major corridors in the area.

Additionally, on-demand transport such as the King County Metro Access and the Hyde Shuttles should have direct service to the light rail station bus access point in order to improve service for those with mobility limitations.

Additional modes that could operate in coordination with transit include bike sharing or car sharing programs, with organizations such as Zipcar, Car2Go, or Puget Sound Bike Share ("Pronto"). An analysis of potential demand for these services should be conducted to determine their relative feasibility.

PARKING MANAGEMENT STRATEGIES

Monitoring and managing parking issues in the subarea should be an important focus of the first twenty years of implementation. As demand for parking shifts with the light rail service and changes in development, the City has a number of parking management strategies that are common elements in Transit-Oriented Development.

- RESIDENTIAL PARKING ZONES (RPZ) – Implementation of an RPZ would help discourage long-term parking within residential areas by retail or light rail station users.
- TIME LIMITS AND RESTRICTIONS – Time limits can help reduce parking spillover into residential areas and can also improve parking turnover in commercial areas.
- PARKING LOCATION SIGNAGE – Information directing drivers to available off-street parking locations can improve vehicle circulation and ensure that parking supply is utilized.
- VARIABLE PARKING PRICING – Changes in parking rates based on time period and demand can help moderate available supply.
- ADDITIONAL OFF-STREET PARKING SUPPLY – If existing parking facilities are being efficiently used, then the City or property owners may consider adding off-street parking to ease the pressure off of on-street supply.

City code stipulates that development may reduce its parking supply according to the following criteria:

20.50.400 Reductions to minimum parking requirements.

A. Reductions of up to 25 percent may be approved by the Director using a combination of the following criteria:
   1. On-street parking along the parcel's street frontage.
   2. Shared parking agreement with nearby parcels within reasonable proximity where land uses do not have conflicting parking demands. The number of on-site parking stalls requested to be reduced must match the number provided in the agreement. A record on title with King County is required.
   3. Parking management plan according to criteria established by the Director.
   4. A City approved residential parking zone (RPZ) for the surrounding neighborhood within one-quarter mile radius of the subject development. The RPZ must be paid by the developer on an annual basis.
   5. A high-capacity transit service stop within one-quarter mile of the development property line with complete City approved curbs, sidewalks, and street crossings.
   6. A pedestrian public access easement that is eight feet wide, safely lit and connects through a parcel between minimally two different rights-of-way. This easement may include other pedestrian facilities such as walkways and plazas.
   7. City approved traffic calming or traffic diverting facilities to protect the surrounding single-family neighborhoods within one-quarter mile of the development.

H. In the event that the Director approves reductions in the parking requirement, the basis for the determination shall be articulated in writing.

I. The Director may impose performance standards and conditions of approval on a project including a financial guarantee.

J. Reductions of up to 50 percent may be approved by Director for the portion of housing providing low income housing units that are 60 percent of AMI or less as defined by the U.S. Department of Housing and Urban Development.

K. A parking reduction of 25 percent may be approved by the Director for multifamily development within one-quarter mile of the light rail station. These parking reductions may not be combined with parking reductions identified in subsections A and D of this section.

*Note that this reduction will not be granted until the light rail station exists.

L. Parking reductions for affordable housing may not be combined with parking reductions identified in subsection A of this section. (Ord. 731 § 1 (Exh. A), 2015; Ord. 706 § 1 (Exh. A), 2015; Ord. 669 § 1 (Exh. A), 2013; Ord. 654 § 1 (Exh. 1), 2013; Ord. 238 Ch. V § 6(B-2), 2000).

ESTIMATED COSTS FOR TRANSPORTATION SYSTEM IMPROVEMENTS AND ACTIONS

Table 7-5 below displays estimated costs for recommended transportation actions and improvements in this plan.

Table 7-5: Transportation System Improvements to Support the Planned Action through 2035

Street	Description	Low	High	Notes
N/NE 155th Street	Extend the two-way left turn lane from 5th Avenue NE to 15th Avenue NE with bicycle lanes	$500,000	$800,000	Consistent with cost estimates used in the TMP
N/NE 155th Street	Construct a northbound right-turn pocket at the intersection of N/NE 155th Street and 1st Avenue NE	$200,000	$400,000	Assumes necessary costs for ROW/roadway construction
N/NE 155th Street	Consider signalization or a roundabout at the intersection of N/NE 155th Street and 1st Avenue NE	$500,000	$800,000	Costs use blended average of signalization or roundabout construction
5th Avenue NE	Construct a two-way left turn lane from the I-5 NB on-ramp to N/NE 155th Street	$400,000	$700,000	Consistent with cost estimates used in the TMP
Meridian Avenue N	Consistent with the TMP, convert Meridian Avenue N to a three-lane profile with a two-way left-turn lane and bicycle lanes	$500,000	$800,000	Consistent with cost estimates used in the TMP
145th Street Multimodal Corridor Study Improvements	Aurora Avenue to I-5	$46,000,000	$50,600,000	▪ Project limits are from Aurora Avenue to I-5 SB ramps ▪ Includes new traffic signals at Aurora, Ashworth, Meridian, and 1st Ave ▪ This concept aims at rehabilitating exisiting pavement and sidewalks ▪ 5' sidewalk on South side ▪ 8' sidewalk plus 5' amenity zone on north side

Table 7-5 (continued): Transportation System Improvements to Support the Planned Action through 2035

Street	Description	Low	High	Notes
145th Street Multimodal Corridor Study Improvements	Aurora Avenue to I-5	$46,000,000	$50,600,000	▪ Assumes new striping and channelization for entire corridor ▪ Utility Undergrounding is included. ▪ Water main is not included.
145th Street Multimodal Corridor Study Improvements	I-5 Interchange Area	$21,400,000	$23,500,000	▪ Based on "Preliminary Preferred Design Concept" ▪ Assumes new traffic signal at 5th Ave ▪ Assumes new signal at SB ramps ▪ Assumes 14' non-motorized ped bridge ▪ Assumes demo of sidewalks on existing bridge, and bridge widening for lane and sidewalk ▪ Property acquisition from Lakeside school needed for additional right turn lane to SB I-5 ▪ Sidewalks and roadway improvements from 3rd Ave to 5th Ave, includes half of 5th Avenue intersection ▪ Includes ramp improvements, additional lane SB off ramp ▪ Button hook ramp, eastbound to northbound I-5 ▪ Property acquisition for sidewalk on north side of 145th street is not included ▪ No costs associated with Thornton Creek included, exempt per ST EIS. ▪ Assumes reconstruction of NB ramp from button hook to the merge with existing NB ramp.
145th Street Multimodal Corridor Study Improvements	I-5 to SR-522	$85,000,000	$93,500,000	▪ Based on "Preliminary Preferred Design Concept" ▪ From SR522 to 5th Ave ▪ Includes queue jumps and some BAT lanes ▪ This concept aims at achieving maximum transit travel time benefit while minimizing property impacts ▪ 13' sidewalks are assumed including 5' amenity zone and 8' sidewalk. ▪ 12' outside lanes, 11' thru and turn lanes ▪ Utility undergrounding is assumed. ▪ No improvements to water main or sewer main.

Utility System Improvement Needs

Utilities analyzed in the planning process include:

- Water systems and facilities managed by the North City Water District and Seattle Public Utilities
- Wastewater system and facilities managed by Ronald Wastewater District (anticipated to be assumed by the City in 2017 as per interlocal agreement)
- Surface water management systems managed by the City of Shoreline
- Electricity services provided by Seattle City Light
- Natural gas services provided by Puget Sound Energy
- Telephone, cable, and communications services provided by Comcast, Frontier Communications, CenturyLink, Integra Telecom, and Zayo Group (formerly AboveNet Communications)

For the electricity, natural gas, telephone, cable, and communications services, incremental growth and redevelopment would be able to be served through typical extensions of lines and services supported by customer fees and charges with each connection/service. For this reason, no specific capital improvements have been identified in the subarea plan for these utilities.

For water, wastewater, and surface water, upgrades and expansions to systems and facilities will be needed to serve growth through 2035. Much of this analysis is based on anticipation of full build-out utility service in the subarea and anticipation that utility providers may upsize pipes and facilities for a longer period of growth than through 2035 to avoid too many incremental upgrade costs in coming decades. That said, utility improvements are customarily funded and implemented on an incremental basis to serve ongoing population growth, and this will be a continual process as more redevelopment occurs over time.

Each utility provider will need to update their systems master plans to reflect the adopted zoning and potential growth in customers and redevelopment. As part of updating their plans, they will confirm specific incremental improvement needs and plan for these through their normal procedures. This process may amend some of the planning-level descriptions of improvement projects and related costs described in this section of the plan. Refer to **Table 7-6** for estimated utilities improvements costs and **Figures 7-3, 7-4, and 7-5** for locations of needed utility improvements.

WATER SYSTEM AND FACILITIES MANAGED BY SEATTLE PUBLIC UTILITIES

For the next twenty years, increased demand within the Seattle Public Utilities portion of the subarea would primarily be within TAZ 137, converting primarily R-6 zones to Mixed Use Residential (MUR) development.

A number of the existing pipes within this TAZ are 4" and 6" diameter pipes, which may not be adequate for fire flow or water circulation. Approximately 6,600 feet of existing 4" and 6" diameter mains may need to be upsized to 8" mains within the next twenty years, including the following:

1. 900 feet of pipe along Corliss Avenue N, from NE 147th Street to NE 150th Street. This would connect a dead-end section of pipe, and create a loop in the system for additional water flow and fire suppression. Sections of existing pipe may need to be upsized to 8" diameter mains.
2. 400 feet of pipe along NE 150th Street, from Meridian Avenue NE to 1st Avenue NE. This section of pipe may need to be upsized to 8" diameter mains.
3. 500 feet of pipe along NE 148th Street from Meridian Avenue NE to Corliss Avenue NE. This would connect a dead-end section of pipe, and create a loop in the system for additional water flow and fire suppression. Sections of existing pipe may need to be upsized to 8" diameter mains.
4. 700 feet along NE 147th Street, from Corliss Avenue NE to 1st Avenue NE. This section of pipe may need to be upsized to 8" diameter mains.
5. 450 feet along 1st Avenue NE, from NE 147th Street to NE 145th Street. This section of pipe may need to be upsized to 8" diameter mains.

6. 600 feet along NE 147th Street, from the edge of the cul-de-sac to 1st Avenue NE.
7. 350 feet along NE 146th Street, from the edge of the cul-de-sac to Corliss Avenue NE.
8. 1,250 feet within the loop south of NE 155th Street, along NE 153rd Street to Stone Avenue NE to Interlake Avenue NE. Demand is not projected to be extensive within this neighborhood; however fire hydrants within this loop currently do not meet current standards for fire flow, and may need to be upsized.

The above listed improvements are approximate estimates to provide a ballpark synopsis of the impacts rezoning will have on the study area. The improvements are not based on hydraulic modeling. SPU routinely completes modeling of its service area, and identifies water system improvement needs based on specific performance requirements, specifically fire flow as the driving factor. SPU projects that they have adequate fire flow within their service area, and have sufficient capacity to handle the projected demand. Projected improvements listed are based on the comparison of areas that are anticipated to generate the largest amount of demand, and which may also be currently serviced by smaller diameter pipes (less than 8 inches in diameter) and dead-end pipe sections. Actual improvements may differ from what is shown, and is dependent on hydraulic modeling when specific development is planned within the study area.

WATER SYSTEM AND FACILITIES MANAGED BY NORTH CITY WATER DISTRICT

Similar to the Seattle Public Utilities portion of the subarea, redevelopment and growth with adoption of the subarea plan will generate demands on the water system through 2035. Within the next twenty years, redevelopment within the North City Water District portion of the subarea is projected to increase demand by 310 percent. The most demand is projected within TAZs 97, 99, 103, 104, 130, and 138. The total length of pipe potentially necessary to accommodate the projected population in 2035 is approximately 12,000 feet of mainline water improvements (upsizing/replacements).

Recommended improvements are based on the assumption that the subarea will eventually be built-out with land uses allowed under the adopted zoning. For the purposes of the plan, it is assumed that infrastructure upsizing to serve the high-end twenty-year 2.5 percent growth rate may include a higher level of improvements.

With further planning and analysis, the utility provider would determine the most cost effective and efficient method for making improvements to serve growth in the interim years up to the built-out condition.

Estimated improvements needed to serve the next twenty years of growth (but assuming full upsizing to serve build-out) include the following.

Approximately 12,000 feet of existing 6" diameter mains may need to be upsized to 8" mains within the next 20 years, including the following:

1. 350 feet along NE 153rd Street, from the edge of cul-de-sac to 5th Avenue NE. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.
2. 1,900 feet within the loop west of 5th Avenue NE, along NE 151st Street, 3rd Avenue NE, and NE 152nd Street. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.
3. 2,000 feet along NE 152nd Street, from 5th Avenue NE to 12th Avenue NE. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.
4. 550 feet along 8th Avenue NE, from NE 147th Street to NE 145th Street. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.
5. 500 feet along NE 149th Street, from the end of the cul-de-sac to 5th Avenue NE. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.

6. 1,150 feet within the loop south of NE 147th Street, along 9th Avenue NE, NE 146th Street, and 9th Place NE.
7. 1,400 feet within the loop east of 8th Avenue NE, along NE 150th Street, 9th Place NE, NE 148th Street, and 9th Avenue NE.
8. 900 feet along 10th Avenue NE, from NE 155th Street to NE 152nd Street.
9. 650 feet along NE 151st Street, from 8th Avenue NE to 10th Avenue NE.
10. 2,650 feet along 12th Avenue NE, from NE 155th Street to NE 145th Street. This section of pipe may need to be upsized to 12" diameter mains within the next twenty years.

The listed improvements are approximate estimates to provide a ballpark synopsis of the impacts rezoning will have on the study area. The improvements are not based on hydraulic modeling. It is not anticipated that all improvements would be constructed at once. This analysis provides the City and North City Water District an idea of forecasted demands projected for certain sections of the city. Projected improvements listed are based on the comparison of areas that are anticipated to generate the largest amount of demand, and which may also be currently serviced by smaller diameter pipes (less than 8 inches in diameter) and dead-end pipe sections. Actual improvements may differ from what is shown, and is dependent on hydraulic modeling when specific development is planned within the study area.

WASTEWATER SYSTEM AND FACILITIES MANAGED BY THE RONALD WASTEWATER DISTRICT

Within the next twenty years, redevelopment as a result of the subarea plan in the Ronald Wastewater District would be projected to increase demand by 250 percent. The most demand is projected within TAZs 97, 99, 103, 104, 130, 137 and 138.

Based on the assumption of maximum sewer flow rates with minimum pipe slope for demand generated solely from development within the subarea, most pipes within the subarea are of adequate size to accommodate the projected population for the next twenty years, with the exception of the following pipe runs:

Utility improvements are needed in certain Shoreline neighborhoods to serve projected growth and redevelopment in the subarea.

1. The main trunk main entering the City of Seattle near the intersection of 5th Avenue NE and crossing N 145th Street, may need to be upsized to a 36 inch diameter main.
2. The 12 inch main which crosses below I-5, along N 149th Street, and discharges to the existing 36" trunk main, may need to be upsized to an 18 inch diameter main.
3. The 8 inch main which crosses below I-5, near N 146th Street, and discharges to the existing 36" trunk main, may need to be upsized to a 12 inch diameter main.
4. The trunk main collecting wastewater for basin #24, located, through an easement east of 9th Avenue NE, reduces from an 18" diameter pipe to a 10 inch diameter pipe between NE 146th Street and NE 145th Street. This 130 foot section of pipe would most likely need to be upsized to an 18 inch diameter pipe.
5. The 8 inch main along 15th Avenue NE, between N 150th Street and N 145th Street, may need to be upsized to an 18 inch diameter pipe.

Leading up to complete build-out, these sections of pipe would need to be periodically reevaluated, and may need to be upsized in order to accommodate additional demand generated.

Rain garden bump-outs in Shoreline neighborhood

The listed improvements are approximate estimates to provide a ball-park synopsis of the impacts rezoning will have on the study area. The improvements are not based on hydraulic modeling. It is not anticipated that all improvements would be constructed at once, but would provide the City and Ronald Wastewater District an idea of forecasted demands projected for certain sections of the city. Projected improvements listed are based on the comparison of areas that are anticipated to generate the largest amount of demand, and maximum flow rates of existing sewer main diameters. Actual improvements may differ from what is shown, and is dependent on hydraulic modeling when specific development is planned within the study area. Additional evaluation will need to occur to verify the pipe diameter is adequate with the inclusion of additional flows from customers in Seattle.

SURFACE WATER MANAGEMENT SYSTEM AND FACILITIES MANAGED BY THE CITY OF SHORELINE

Projected surface water improvement needs for the next twenty years to serve subarea redevelopment include the following.

A. 1,350 feet along 8th Avenue NE from NE 155th Street to NE 150th Street
B. 1,800 feet along 6th Avenue NE from NE 152nd Street to NE 145th Street
C. 550 feet along NE 151st Street from 8th Avenue NE to 10th Avenue NE
D. 300 feet along NE 145th Street from 6th Avenue NE to 5th Avenue NE
E. 12” diameter or larger pipes or bioretention swales may be necessary in some locations.

If specific Phase 1/Phase 2 boundaries are not adopted, additional conveyance pipe runs likely would be needed to accommodate the projected population in 2035 over a broader geographic region. 12” diameter or larger pipes or bioretention swales may be necessary in the following areas:

A. 1,350 feet along 8th Avenue NE from NE 155th Street to NE 150th Street
B. 1,800 feet along 6th Avenue NE from NE 152nd Street to NE 145th Street
C. 2,200 feet along 12th Avenue NE from NE 148th Street to NE 145th Street, and along NE 145th Street to 17th Avenue NE
D. 550 feet along NE 151st Street from 8th Avenue NE to 10th Avenue NE
E. 300 feet along NE 145th Street from 6th Avenue NE to 5th Avenue NE

TABLE 7-6: Utilities—Estimated Capital Improvement Costs

WATER SERVICE—ESTIMATED CAPITAL IMPROVEMENT COSTS		
North City Water District Water Service		
Pipe Length	**8" main**	**Cost**
350	$270	$94,500
1,900	$270	$513,000
2,000	$270	$540,000
550	$270	$148,500
500	$270	$135,000
1,150	$270	$310,500
1,400	$270	$378,000
900	$270	$243,000
650	$270	$175,500
2,650	$270	$715,500
	TOTAL	**$3,253,500**

Seattle Public Utilities Water Service		
Pipe Length	**8" main**	**Cost**
900	$270	$243,000
400	$270	$108,000
500	$270	$135,000
700	$270	$189,000
450	$270	$121,500
600	$270	$162,000
350	$270	$94,500
1,250	$270	$337,500
	TOTAL	**$1,390,500**

SANITARY SEWER SERVICE—ESTIMATED CAPITAL IMPROVEMENT COSTS						
Ronald Wastewater District—Sanitary Sewer Service						
Pipe Length	**12" main**	**Cost**	**18" main**	**Cost**	**36" main**	**Cost**
200 *					$450	$90,000
750			$380	$285,000		
350 **	$300	$105,000				
130 **			$380	$49,400		
1,350			$380	$513,000		
650		$325,000				
	TOTAL	**$1,042,400**				

* Improvements only analyzed within the City of Shoreline. Upsizing this main may need to extend into the City of Seattle service area. No information available for Seattle service area.

** Improvements include upsizing pipes under I-5, which may require boring or pipe bursting larger pipes below the freeway.

SURFACE WATER MANAGEMENT SERVICE—ESTIMATED CAPITAL IMPROVEMENT COSTS		
City of Shoreline—Surface Water (Stormwater) Management Service		
Pipe Length	**12" main**	**Cost**
1,350	$200	$270,000
1,800	$200	$360,000
550	$200	$110,000
300	$200	$60,000
2,200 *	$200	$440,000
	TOTAL	**$1,240,000**

* Improvements may be necessary if specific Phase 1/Phase 2 boundares are not adopted.

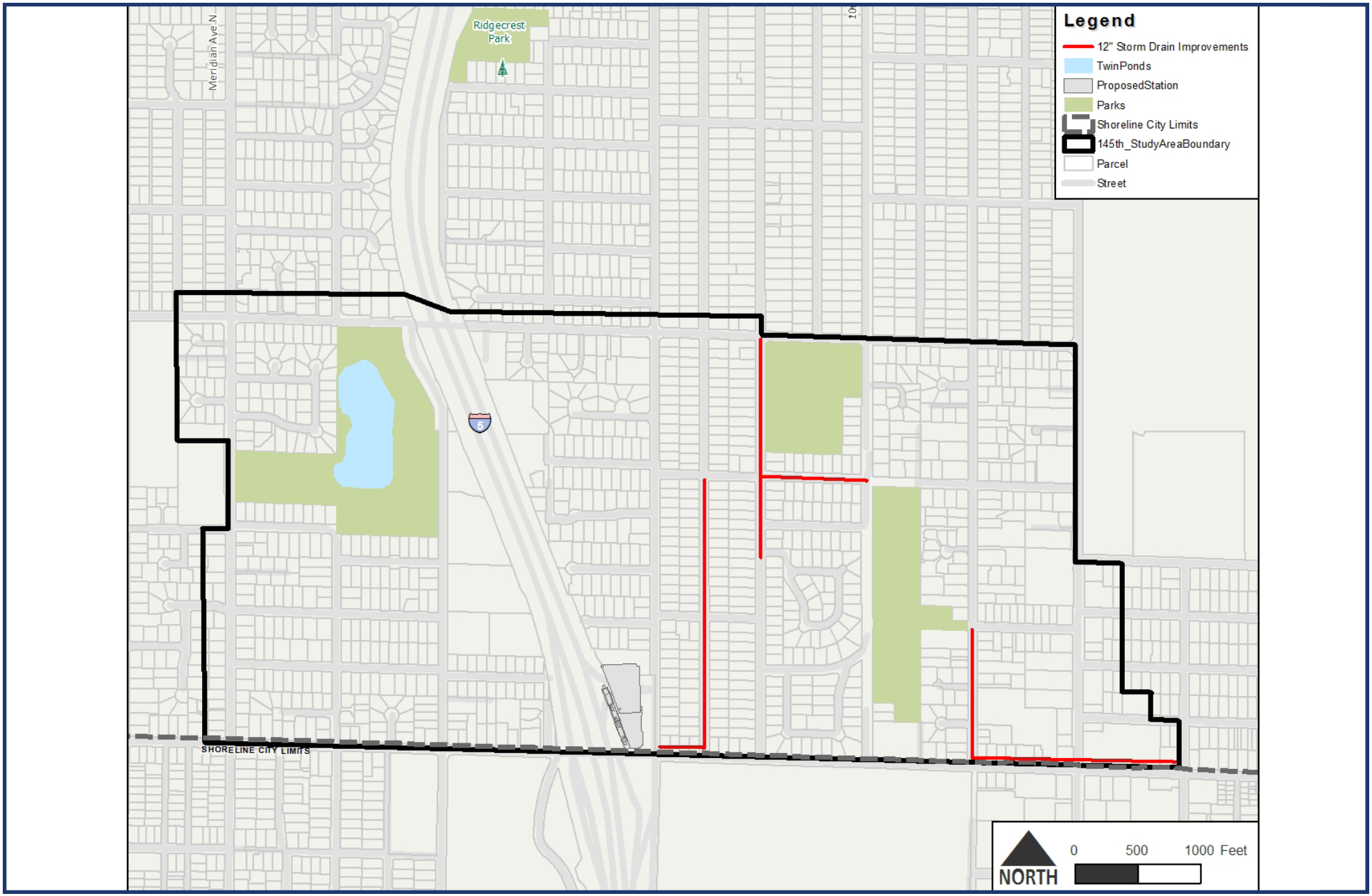


FIGURE 7-3: City of Shoreline Planned and Recommended Surface Water Improvements

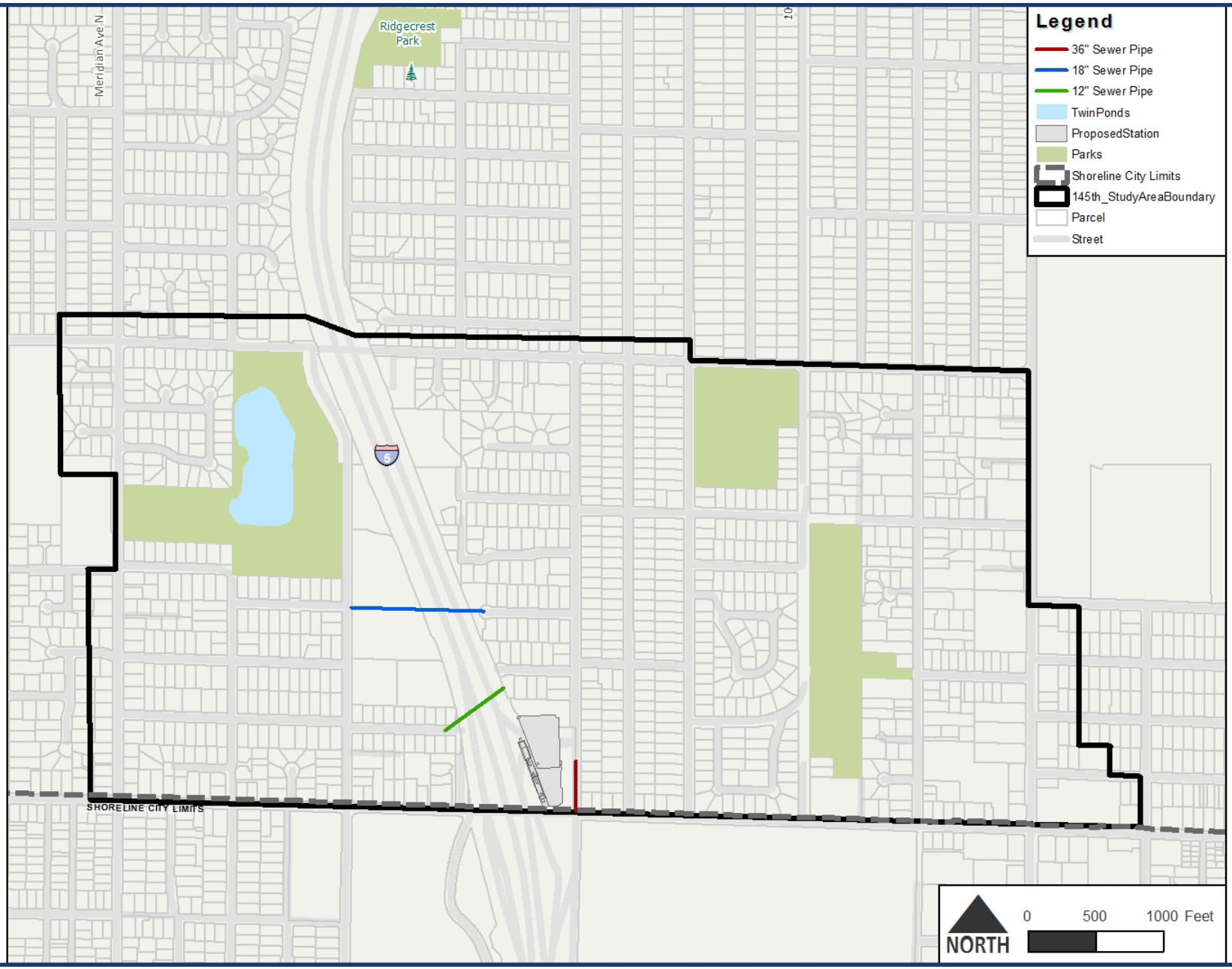


FIGURE 7-4: Ronald Wastewater Planned and Recommended Wastewater Improvements

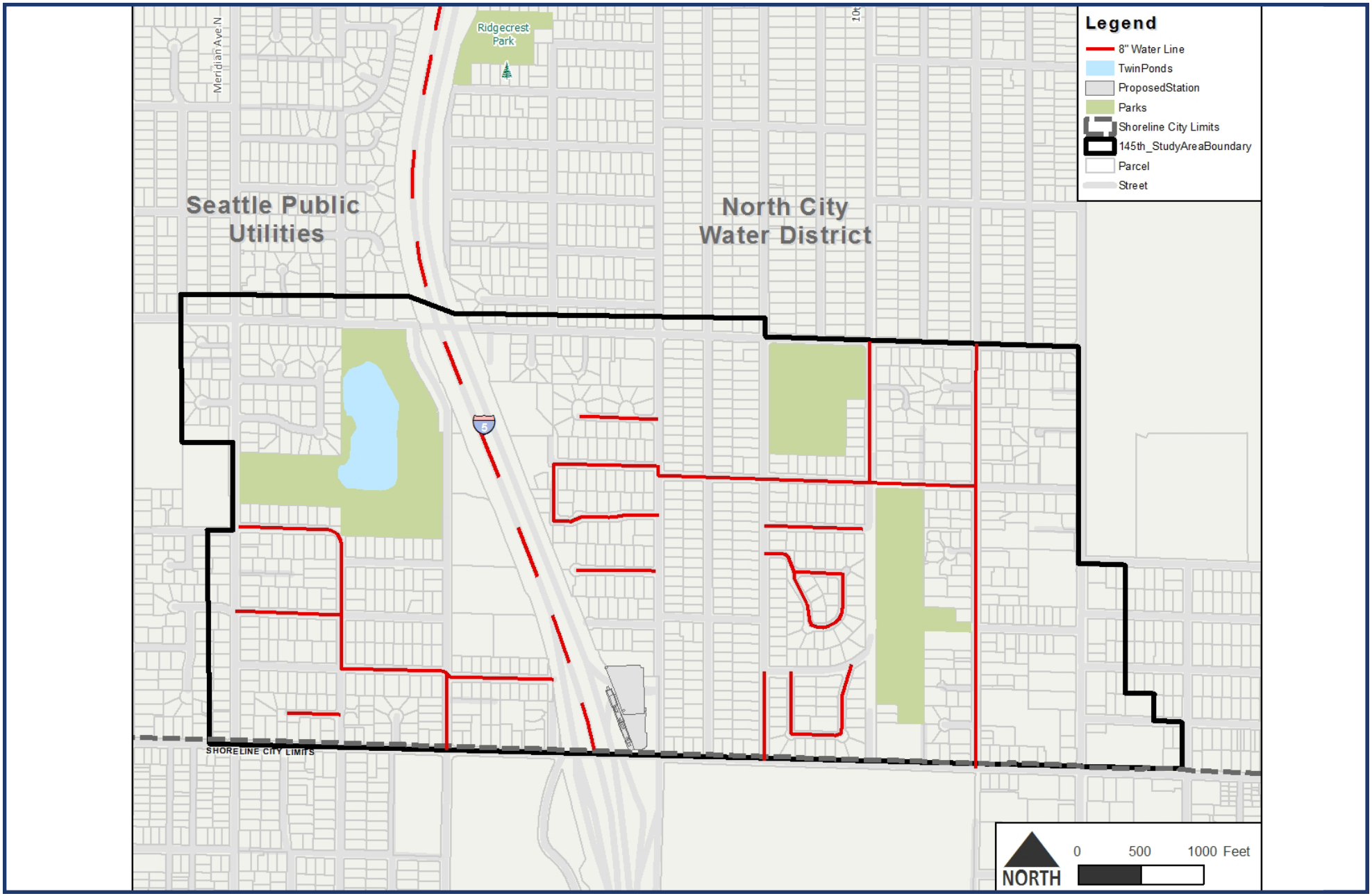


FIGURE 7-5: North City Planned and Recommended Water Improvements

UW Soccer plays a soccer match at Twin Ponds Playfields

Parks, Recreation, Open Space, and Other Areas of the Public Realm

PARKS, RECREATION, AND OPEN SPACE

The projected total population of residents in the subarea by 2035 will reach 11,207 to 13,635 (assuming a 1.5 to 2.5 percent average annual growth rate), living in an estimated 4,670 to 5,681 total housing units. 2,180 to 2,678 total employees would be expected in the subarea by 2035. This is 2,886 to 5,314 new residents (as well as 1,203 to 2,214 new housing units and 585 to 1,083 new employees) above current levels in the subarea.

While there appear to be adequate regional and community parks in Shoreline to serve future growth, neighborhood parks will be needed in the subarea as the population increases. The PROS Plan analyzes the target level of service (LOS) for neighborhood parks, through an amenities-driven approach.

Even though there are a variety of existing parks and open space areas in the subarea and surrounding vicinity to serve future population needs, the projected 2035 population level would create a demand for approximately one new neighborhood park in place by the end of the twenty-year horizon of 2035, if not before.

Neighborhood parks can vary in size, from one acre to up to fifteen acres. Most existing neighborhood parks in the City of Shoreline are between one acre and five acres in size.

Given the relatively compact service area, and that demand for parks and recreation is based on population growth, the decision to adopt phasing would not change the demand analysis. The same demand for parks and recreation would occur with or without adopted phasing.

When considering the specific type of facilities the increased population would need, it is important to evaluate a number of factors, including community involvement, availability of the different classifications of parks and open space, and level of service standards.

Farmers Market

Community involvement during the subarea planning process has confirmed that residents are interested in preserving and protecting existing parks and open spaces and the natural areas within these in the subarea. Community members also want to ensure that neighborhood parks and other facilities (playgrounds, public gathering spaces, teen centers, etc.) are available to serve new residents as they move to the area in the future. They are also interested in public art, enhanced streetscapes, and other amenities.

Based on traditional National Park and Recreation Association (NPRA) standards, it is advisable to have a neighborhood park serving a half-mile area with population of up to 5,000 people. However, it should be noted that these standards are used with discretion in determining park needs, because every community is different and may have various types of recreation facilities that meet the demand even if they do not have the acreage.

With consideration of the NPRA standard, the number of new residents in the subarea and assuming that some existing facilities in the subarea and in surrounding areas are currently meeting neighborhood park needs, there likely would be an additional demand for one new neighborhood park in twenty years (by 2035) and additional neighborhood parks at build-out. Some of this demand could continue to be served by neighborhood school facilities as well as neighborhood parks in areas bordering the subarea. Most of the demand would need to be met by new parks, recreation, and open space facilities. Neighborhood parks potentially could be integrated into the redevelopment of large parcels and by adding property to existing parks and open space areas.

The City of Shoreline's amenities-driven approach to meeting the LOS neighborhood parks provides for the inclusion of larger community and urban park development with neighborhood park amenities and school property to meet the needs of the projected population. Playfields, play equipment, recreation courts, and other facilities at schools are important to meeting the LOS. In the future, the use of schools sites such as Paramount School Park might change. The School District may need to use the site for school/educational purposes again with growth in the subarea. If this occurs, it will be important to coordinate with the School District to continue to provide public access to the school site and facilities to serve the neighborhood's needs.

It is envisioned that redevelopment of the subarea would create urban plazas, pocket parks, playgrounds, trail corridors, and other open spaces through private development and City initiative. These also could serve some of the demand for neighborhood park space.

It is important to remember that the other level of service standard referenced is for neighborhood parks to serve an area within one-half mile. As such, parks could be developed at the periphery of the subarea in the future that would serve residents' needs. If other types of parks, recreation, and open space facilities are provided as part of redevelopment, the level of service could be sufficient for an urban neighborhood. This assumes that existing neighborhood parks in areas near the subarea would be able to serve some of the growing population. In some cases, these existing neighborhood parks may need new facilities such as play equipment or other elements to improve their recreation capacity for use by the surrounding residents.

Smaller (one-half acre or less) dispersed urban park, open space and plazas that act as public gathering spaces, could also help to serve the demand in the subarea if incorporated into redevelopment projects.

The required updates to the PROS Plan (every six years) create a way for the City to continue to monitor the need for parks as the neighborhood grows, seek funding to maintain and acquire property, and develop new neighborhood park facilities in the subarea to serve the growing population's needs. One of the important objectives of developing a subarea plan is to identify these key areas of need, so that the City and its partners can begin to proactively plan to serve these in the near term. Recognizing that future property values would likely increase in the subarea, it may be advantageous to seek property for parks and open space use in the near term. This would require examination of potential funding options, such as dedications, grants, bond levies, or other means. The current capital budget does not including funding for any near term acquisition, but the 2017 update to the PROS Plan will consider establishing an impact fee for this purpose.

Priority habitat areas such as at Twin Ponds Park are protected by local, state, and federal regulations. Areas of urban forest are more vulnerable to potential impacts associated with redevelopment in the subarea. The City's adopted critical areas ordinance calls for preservation of groups of mature trees, planting of native landscaping, and other provisions. Department of Ecology (DOE) regulations related to surface water management also recognize preservation of natural areas as a best practice. Redevelopment projects in the subarea will be required to comply with these regulations as applicable.

DEMAND FOR OTHER HUMAN SERVICES/ COMMUNITY SUPPORT FACILITIES

The growing population of the subarea also will generate demand for a wide range of other human services and community support facilities, such as community center facilities, community meeting and classroom facilities, recreation center facilities, places to exercise, and other services and facilities. It is anticipated that the level of public services will expand over time as the population and tax base in the community grows. Private sector businesses would also serve some of the demand over time as would the developers of mixed-used buildings in the subarea.

OTHER RECOMMENDED ACTIONS

A number of park-related projects are currently in the PROS Plan recommendations list and the City's Capital Improvements Plan. The PROS Plan has short-term, mid-term, and long-term recommendations along with community goals during the current planning period. In the future, these recommendations will be reviewed annually and appropriately considered during budgeting of the Capital Improvement Plan.

The PROS Plan will receive an update in 2017 and again in 2023 and 2029. Planning for the 2017 update is currently underway. The City will reassess the demands and needs and will modify implementation recommendations based on changing needs. The City will evaluate the level of recent and pending changes in the station subarea and make recommendations for additional park, recreation, and open space facilities accordingly.

Implementing the PROS Plan recommendations will help to ensure that parks, recreation, and cultural services are provided to the growing subarea. In addition, the following policies are proposed to address the needs for parks, recreation, and open space in the subarea.

- Acquire property to increase available land for park and recreation use.
- Develop a park impact fee and/or dedication program for acquisition and maintenance of new parks or open spaces.
- Ensure Twin Ponds and Paramount Open Space Parks' pedestrian connections from the neighborhood to the 145th Street light rail station are designed and constructed to fit the character of the parks.
- Mitigate impacts of increased activity in existing parks and open spaces by creating a major maintenance/capital investment funding program.

Marimba Youth Band performs at Paramount Park

- Through Parks Master Planning processes, determine specific needs for spaces, facilities, and programs to accommodate anticipated growth, taking into consideration demographic projections.

Additional subarea plan policies proposed to address the natural environment could also provide mitigation for population growth within the subarea and illustrate how parks, surface water, and transportation initiatives can coordinate at the project level, such as:

- Prioritize acquisition of sites that are ill-suited for redevelopment due to high water table or other site-specific challenge for new environmental or stormwater function.
- Encourage planting new trees and preserving existing stands of trees (especially native and conifers) in and around the perimeter of a site.
- Consider establishing a fee-in-lieu program for private property tree replacement that could be used for reforesting public open spaces.
- Ensure existing wetlands, streams, and their buffers are protected as redevelopment happens.
- Ensure any unavoidable impacts to existing wetlands, streams, and their buffers are mitigated through restoration or enhancement.
- Develop opportunities for creating wildlife and/or greenway corridors connecting existing park and open spaces

THE GREEN NETWORK CONCEPT

Implementation of a "Green Network" of trails, sidewalks, bike lanes and other facilities in green streets, parks, and open spaces is envisioned and would be implemented over time as redevelopment occurs in the subarea. The Green Network would also include stream corridors, wetlands, and other natural areas.

Improvements in the Green Network would enhance bicycle and pedestrian accessibility and safety and provide connectivity to and from the light rail station, as well as between homes, parks, school, and other community destinations in the subarea.

With stormwater management, green infrastructure/low impact development systems, stream corridor enhancement, and protection of wildlife habitat, the Green Network would provide a variety of environmental benefits.

Improvements could be made through transportation, surface water, or park improvement processes, and as such would need to be coordinated through various City departments.

The Green Network includes streets enhanced for pedestrian and bicycle use in the subarea based on the outcomes of the 145th Street Multimodal Corridor Study via an off-corridor network. The maps that follow show this Off-Corridor pedestrian and bicycle network, along with the Green Network concept. Photos show the types of features that would be preserved and that would continue to emerge in the subarea as part of redevelopment.

Schools and Other Public Services Needs

SCHOOLS

There would be an increased demand for schools and school facilities over the next twenty years. It is estimated that there would be the following total student populations in the subarea per school level.

- 793 to 965 elementary students
- 242 to 295 middle school students
- 506 to 615 high school students

The Shoreline School District will review these numbers as part of their ongoing planning for school facilities and begin to determine how to address the population growth in the coming years.

The entire subarea is located within Shoreline School District. As such, implementation of Phase 1 and Phase 2 geographic boundaries would not affect the potential impacts to school services and facilities, which are analyzed based on projected population growth in the subarea.

Actions that will be taken over the next twenty years to serve the demand for the growing subarea population include the following.

- The School District will continue to monitor growth levels within its service area, including the station subarea and document trends in student enrollment in order to plan, prepare, and request community support for resources for the addition of facilities and services to support the growth.
- The School District retains properties for future uses that may be needed. The school district facility west of Shorecrest High School currently being used as a warehouse and central kitchen should be retained for future potential school use to serve the growth projected for the subarea.
- The District also has the ability to alter or shift special program assignments to free up space for core programs: gifted programs, arts, activities, and others.

Preschool Playground

- Boundary adjustments could occur to reallocate the area from which individual schools draw attendance. As completed recently with the high schools, expansion of affected schools, if feasible, without eliminating required playfields or parking, could be a planned improvement to accommodate increases in demand.
- The City of Shoreline does not currently charge impact fees to new development applications for school facilities. The City should coordinate with the Shoreline School District to monitor and determine the potential eligibility for an impact fee program over time. For example, King County charges school impact fees to development projects in unincorporated areas. Impact fees are adopted annually by ordinance following a thorough review by the School Technical Review Committee and the King County Council of the each district's capital facility plan and enrollment projections.
- In order to be eligible to collect impact fees, school districts must demonstrate that there is not adequate capacity to serve growth. King County was able to demonstrate that they did not have capacity prior to implementing its impact fee program. Shoreline School District would need to do the same. Fees vary per school district and are assessed and collected for every new residential dwelling unit. Low-income housing, senior housing, and community residential facilities are exempt from the fee program.

POLICE, FIRE, AND EMERGENCY SERVICES

The projected 2035 population of new (additional) residents would be to 2,886 to 5,314 (living in 1,203 to 2,214 housing units), above current levels of residents and households in the subarea. This would create a demand for approximately 2.5 to 4.5 new commissioned police officers by 2035 (over today's levels) to address arising needs such as increased crimes and offenses and to provide added patrol and protection services.

Fire and emergency service providers would need to increase staffing, equipment, and facilities to handle approximately 287 to 664 new calls annually in the subarea by 2035.

The entire subarea is located in fairly compact geographic area that is served by the same police, fire, and emergency services providers. As such, implementation of Phase 1 and Phase 2 geographic boundaries would not affect the potential impacts to these services and facilities, which are analyzed based on projected population growth in the subarea.

With the building heights and types proposed, there would be a need for emergency and fire service providers to evaluate current equipment and vehicles to determine if additional resources would be needed. For example, increased ladder height may be needed, and rescue and evacuation training needs may change.

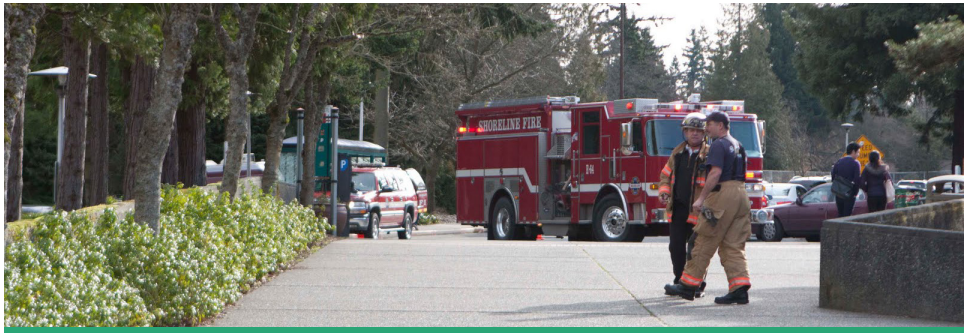
Given the level of existing services and facilities compared to the potential future demand, additional funding and resources would be needed to support increases in the level of service provided by police, fire, and emergency services. Modern technology incorporated into new medium to high density developments is likely to increase efficiencies within the communication, call, and dispatch services within the subarea, benefiting police, fire, and emergency services.

Because build-out would be expected to occur very gradually over several decades, it is anticipated that the service providers would be able to monitor growth in their activities, proactively plan for, and seek

Shoreline Police Neighborhood Center and on bicycles

funding and resources to adjust services as needed to respond over time. Other considerations and actions that would help to address the demand for police, fire, and emergency services include the following.

- The demand for police protection could be reduced through requirements for security-sensitive design of buildings and Crime Prevention through Environmental Design (CPTED) principles for surrounding site areas.
- Provisions of onsite security services could reduce the need for police protection.
- The Fire Department places a lot of emphasis on fire prevention tactics and community education to reduce unintentional injuries and the loss of life and property from fire, accidents, and natural disasters by increasing public awareness.
- Implementation of advanced technology features into future development could increase response time and improve life safety in emergency situations.
- Behavioral changes through education and increased use of outreach, as well as volunteer services such as neighborhood watch programs also could help to reduce demand for some services.
- The increases in households and businesses in the subarea will result in increased tax revenue, which could help to offset some of the additional costs associated with providing increased services and the need for additional facilities related to police, fire, and emergency services.
- With further evaluation and planning, the City could consider the potential for a satellite police station in the subarea over the long term future.



Shoreline Fire Department

OTHER PUBLIC SERVICES

SOLID WASTE MANAGEMENT

The population increase in the subarea would increase demand for solid waste, recycling, and food and yard waste collection services over the course of the time the population reaches build-out levels.

Approximately 1,226 to 2,257 more customers would generate 28,198 to 51,911 additional pounds per week of solid waste by 2035.

Solid waste services are paid through fees. Additional customers would increase the revenue base for solid waste management services. In addition, the City and its contractor could manage the fee structure and potentially increase fees in the future if needed to address the additional demand for services. It is anticipated that this would be a last resort if outreach and education do not result in reduced solid waste levels. It is anticipated that increases in households and businesses in the subarea would result in increased tax revenue, which could help to offset some of the additional costs associated with providing increased solid waste services.

More landfill space may be needed to support waste management, along with more intensive management of solid waste levels including actions to reduce and divert waste to avoid this outcome.

Shoreline City Hall

As discussed previously, growth would be expected to occur gradually, allowing time to comprehensively plan and expand services as needed. Other actions and considerations affecting solid waste management include the following.

- To reduce construction related waste, the City already requires development applicants to provide evidence that they recycled or reused building materials when redeveloping sites, and as part of their application requires them to explain what measures were included.
- The City may condition Planned Action applications to incorporate feasible recycling and reuse measures.
- The City or other entities involved in solid waste management could increase outreach to educate residents and businesses about the importance of waste reduction and recycling. Programs to encourage more composting, conversion of waste to energy, reuse, recycle, barter/trade, etc. could be intensified over time. These efforts could lead to behavioral shifts in the subarea.
- Solid waste services are paid through fees. Additional customers would increase the revenue base for solid waste management services. Through recycling, reuse and waste reduction, the City works with King County to monitor and reduce the need for additional landfill space.

CITY HALL/SHORELINE CIVIC CENTER/CITY SERVICES

The Shoreline Civic Center and City Hall is located at 17500 Midvale Ave. N., in the heart of Town Center. This 67,000 square foot, LEED Gold certified building was completed in 2009 with an expected lifespan of 50-100 years. It offered the ability for the City to consolidate services to one location, and will further that goal to better serve the community by welcoming the new police department in late 2017.

City Hall currently includes the Executive, City Clerk, Attorneys, Finance, Administrative Services, Human Resources, Parks and Cultural Services, Public Works, and Planning and Community Development.

In 2016, the City had a count of 148 full-time employees (FTEs). The current level of service for the City calculates to approximately 2.67 employees per 1,000 residents, which is lower than most Puget Sound cities. If the City assumes additional responsibilities in the future, such as jurisdiction over utility systems, this ratio could change with more employees per 1,000 residents.

HISTORICAL MUSEUM/ARTS AND CULTURE

The Shoreline Historical Museum is located north the subarea at the intersection of N 185th Street and Linden Avenue N. It is managed and operated by a non-profit organization with a mission dedicated to preserving, recording, and interpreting the heritage of the historic Shoreline area and its relationship to the Northwest region. Various arts and cultural groups are active in the community and provide a variety of community services.

LIBRARIES

The Shoreline Library is a King County District Library located north of the subarea at 345 NE 175th Street. It is a 20,000-square-foot facility opened in 1993, replacing the 15,000-square-foot library built in 1975, and offers additional features that the recent previous facility did not include, such as two meeting rooms and two study rooms.

POSTAL BUILDINGS

United States Postal Service offices are located at Aurora Avenue N and N 145th Street as well as 17233 15th Avenue NE. These locations provide full service to the surrounding community with hours from 8:30 – 5:30 Monday through Friday, and open from 8:30 to 3:00 on Saturdays. Lobby areas are open 24 hours for PO Box access, mail drop off, and other self-service features. The demand for postal services has been in general decline in the US for several years due to the reliance of the public on other communication methods such as email services and social media.

HUMAN AND SOCIAL SERVICES

A Washington Department of Public Health Laboratory is located in Shoreline at 1610 NE 150th Street. The location is just east of the subarea, but provides diagnostic and analytical services for the assessment and surveillance of infectious, communicable, genetic, and chronic diseases, and environmental health concerns to the surrounding community. Other types of human services provided in Shoreline include services for seniors such as the senior center and social service programs and facilities. Social and community services would include the need for community center uses, additional meeting space, and other facilities.

Population growth would increase demand for City services and other public services, but there would be the need for expanded services and facilities over time.

Redevelopment over time would necessitate ongoing needs for new regulations, planning and development review, and capital projects, as well as City staff to perform these functions. Based on the additional population growth anticipated, the following increases in demand for other types of public and community services would be expected.

The addition of approximately 2,886 to 5,314 more people to the subarea by 2035 would result in:

- Demand for 7.71 to 14.19 additional FTE City employees by 2035; and
- 5.2 percent to 9.6 percent increase in demand for other services such as library, museum, arts and culture, postal, and human/social services by 2035.

The entire subarea is served by the same public service providers. As such, implementation of Phase 1 and Phase 2 geographic boundaries would not affect the potential impacts, which are analyzed based on projected population growth in the subarea.

The increased population in the subarea over time will require additional public services, including the need for a variety of services. For all public services, it is anticipated that increases in households and businesses in the subarea would generate increased tax revenue, which could help to offset some of the additional costs associated with providing increased services and facilities to serve the growing population. Also, because growth would happen gradually over many decades, it is anticipated that the demand could be monitored, planned for, and served in a manageable way over time. Other actions may include the following.

- The City may consider increases in development application review fees to cover costs associated with increased redevelopment activities in the subarea.
- The City should continue to provide outreach and communication to other public service entities listed above to make them aware of the potential for growth over time and the gradual increased demand for services that may accompany the growth.
- The City and other human/community services providers should monitor the need for additional services and facilities as growth occurs over time and properly plan for and allocate resources toward expanding and enhancing services to address increased demand.

In Conclusion

Even before Shoreline was a city, settlement patterns throughout the history of the area have been influenced by innovations in transportation. In the 1880s, the US Government opened the region to homesteading after railroad fever gripped the Northwest. Speculators planned towns in anticipation of the transcontinental railroad route; among these was Richmond Beach, platted in 1890. The arrival of the Great Northern Railroad in Richmond Beach in 1891 spurred the growth of the small town and increased the pace of development in the wooded uplands.

Construction of the Seattle to Everett Interurban trolley line through Shoreline in 1906, and the paving of the North Trunk Road with bricks in 1913, made travel to and from Shoreline easier, increasing suburban growth. During the early twentieth century, Shoreline attracted large developments drawn by its rural yet accessible location, and commercial centers formed around Interurban stops at Ronald (175th Street and Aurora Avenue N) and Richmond Highlands (185th Street and Aurora Avenue N).

Car travel facilitated settlement, which increased considerably by the mid-1920s. Highway 99 was constructed to stretch from Mexico to Canada, offering more convenient access than ever before to America's new auto travelers. As more people took to the road in automobiles, there was less use of the old trolley line. The Interurban made its last run in February of 1939. By the late 1930s and early 1940s, commercial development concentrated along Aurora Avenue, which saw steadily increasing use as part of the region's primary north-south travel route. Traffic on 99 swelled, particularly after the closing of the Interurban.

After it became clear that an additional north-south freeway would be needed to handle the cross-state traffic, Interstate 5 was constructed in the 1960s, with the final segment in Washington state opening on May 14, 1969. With its opening, motorists could travel without stopping from the northern California state line to the Canadian border, and Highway 99 became more of a regional route and alternate travel way to Interstate 5. The Interstate 5 corridor bisected the community that had become known as Shoreline.

Introduction of light rail service in Shoreline is part of this continuing evolution of the transportation/land use nexus, and will influence settlement patterns in a similar manner. People will be attracted to living near light rail because of the convenient access it provides to the University of Washington, downtown Seattle, Sea-Tac airport, and other locations. Over time, hopefully this new option will reduce dependence on automobiles, and therefore regional congestion and pollution.

Beyond these trends, it is difficult to know how future technological innovations in transportation and building design will impact settlement patterns and other aspects of human behavior. The only certainty is change. All that we can do is continue to adjust; to strive to create a better future for generations to come; to protect what is important, including stewardship of natural and cultural resources; and to foster resiliency in our economic, environmental, and social systems. These are the goals of planning for growth around future light rail stations. It will be incumbent on leaders and residents of the city to see this vision to fruition.