King County

2016
King County Comprehensive Plan Update
Technical Appendix C
Transportation

Contents:

King County, Department of Transportation, Road Services Division
201 South Jackson Street; KSC TR 0317; Seattle, WA 98104
http://www.kingcounty.gov

I. Requirements of the Transportation Element

Specific requirements for the transportation element are found at RCW 36.70A.070(6)(a). The transportation element of the King County Comprehensive Plan (the Plan) meets those requirements as follows:

- **Land Use Assumptions** – The transportation element is based on the same population and employment growth targets provided in Chapter 2 of the Plan.

- **Estimated Traffic Impacts to State-Owned Facilities** –The travel forecast in Technical Appendix C uses the Puget Sound Regional Council Travel Model, which incorporates state owned facilities.

- **An Inventory of Transportation Facilities and Services** – The inventory is provided in Appendix C. As required by growth management legislation, it includes air, water, and ground transportation facilities and services as well as transit alignments and general aviation airport facilities. It includes both county-owned and state-owned transportation facilities within the county's boundaries.

- **Level of Service Standards Including Standards for State Routes** – King County has adopted urban and rural area level of service standards for its Transportation Concurrency Management Program.

- **Actions to Bring Facilities into Compliance** – King County's Transportation Needs Report is adopted by reference along with the Plan. In addition, the Roads Capital Improvements Program, guided by the Strategic Plan for Road Services, identifies specific projects, strategies, and actions to address transportation needs.

- **Traffic Forecasts for at Least Ten Years** – Travel forecasts were developed using the Puget Sound Regional Council's Travel Model with a 2031 horizon year. These travel forecasts were used to analyze state and county transportation facilities.

- **State and Local Transportation Needs to Meet Current and Future Demands** – The King County Road Services Division Transportation Needs Report identifies local system needs, the Strategic Plan prioritizes these needs, and the Capital Improvement Program funds and implements projects. State and local transportation needs are included in the Puget Sound Regional Council travel demand forecasts provided in Technical Appendix C. These elements of the Plan address the Growth Management Act requirement of identifying state and local system needs to meet current and future demand.

- **Analysis of Funding Capability** – A financial analysis is included in the Transportation Needs Report, which is adopted as an element of the Plan in Appendix C1. More information on the financial analysis and supporting policies is provided in Chapter 8, Section IV. of the Plan.

- **Intergovernmental Coordination** – Road Services Division contacted adjacent cities, counties, and transit agencies to coordinate between local transportation systems. King County Road Services' use of the Puget Sound Regional Council Travel Model means the inclusion of regional capacity projects identified in Transportation 2040, a key input in the travel demand analysis. Chapter 8, Section V. contains a discussion of additional intergovernmental coordination efforts by King County.

- **Transportation Demand Management** – King County includes demand management strategies in its policies, codes and project implementation as well as providing support for others through its transit, rideshare, and market strategies. Chapter 8, Section II.K. of the Plan and the transportation inventory in Technical Appendix C contain more information on TDM-related efforts by King County.

- **Nonmotorized Transportation** – King County's pedestrian and bicycle component includes collaborative efforts to identify and designate planned improvements for pedestrian and bicycle facilities and corridors that address and encourage enhanced community access and promote healthy lifestyles. See Chapter 8, Section II.J. of the Plan. King County's Transportation Needs Report includes the road-related non-motorized capital facility's needs, and the Regional Trails Needs Report located in Appendix C2 of the Plan.

- **Concurrency** – The concurrency program is described in Chapter 8, Section II.G. of the Plan.

- **Consistency of Plans--**The comprehensive plan is consistent with Transportation 2040, the regional transportation plan for the four-county region. Transportation 2040 is consistent with the region's urban growth strategy, Vision 2040, also developed by the Puget Sound Regional Council. The Puget Sound Regional Council reviews the Plan for consistency and has certified previous versions of the Plan and its amendments. Consistency was further enhanced in this version by the adoption of Puget Sound Regional Council's regional modeling products and plan review by other jurisdictions. The comprehensive plan provides policy direction for the development of the county's functional plans.

II. Arterial Functional Classification

Functional classification is the designation of highways, roads and streets into groups according to the "function" each road serves or is intended to provide. A foundational principle to this grouping process is that individual roads do not serve travel independently; instead, most travel involves movement through a network of roads. Functional classification helps to define the part that any individual road will play in serving traffic through the road system.

There are two primary functions of a road, and at times they may conflict with each other. First, the road provides mobility for users. Second, the road must provide access to adjacent land uses. Functional street classification is an important tool for planning a transportation or roadway system, as well as in designing and constructing individual facilities. The classification system and King County Road Standards are used to distinguish between different types of roads for planning analyses, road design, and for allocating public funds for transportation improvements.

In unincorporated King County, there are three types of arterial roadways:

Principal Arterials - Provide for movement across and between large subareas of an urban region and serves primarily through traffic with minimum direct access to neighboring land uses. This category includes freeways and major highways under the jurisdiction of the Washington State Department of Transportation.

Minor Arterials - Provide for movement within the larger subareas bound by principal arterials. A minor arterial may also serve through traffic but provides more direct access to neighboring land uses than does a principal arterial.

Collector Arterials - Provide for movement within smaller areas which are often definable neighborhoods, and which may be bound by arterials with higher classifications. Collectors serve very little through traffic and serve a high proportion of local traffic requiring direct access to abutting properties. Collector arterials provide the link between local neighborhood streets (i.e. non-arterials) and larger arterials.

The arterials of the King County road network can be seen in the map "2016 King County Arterial Functional Classification."
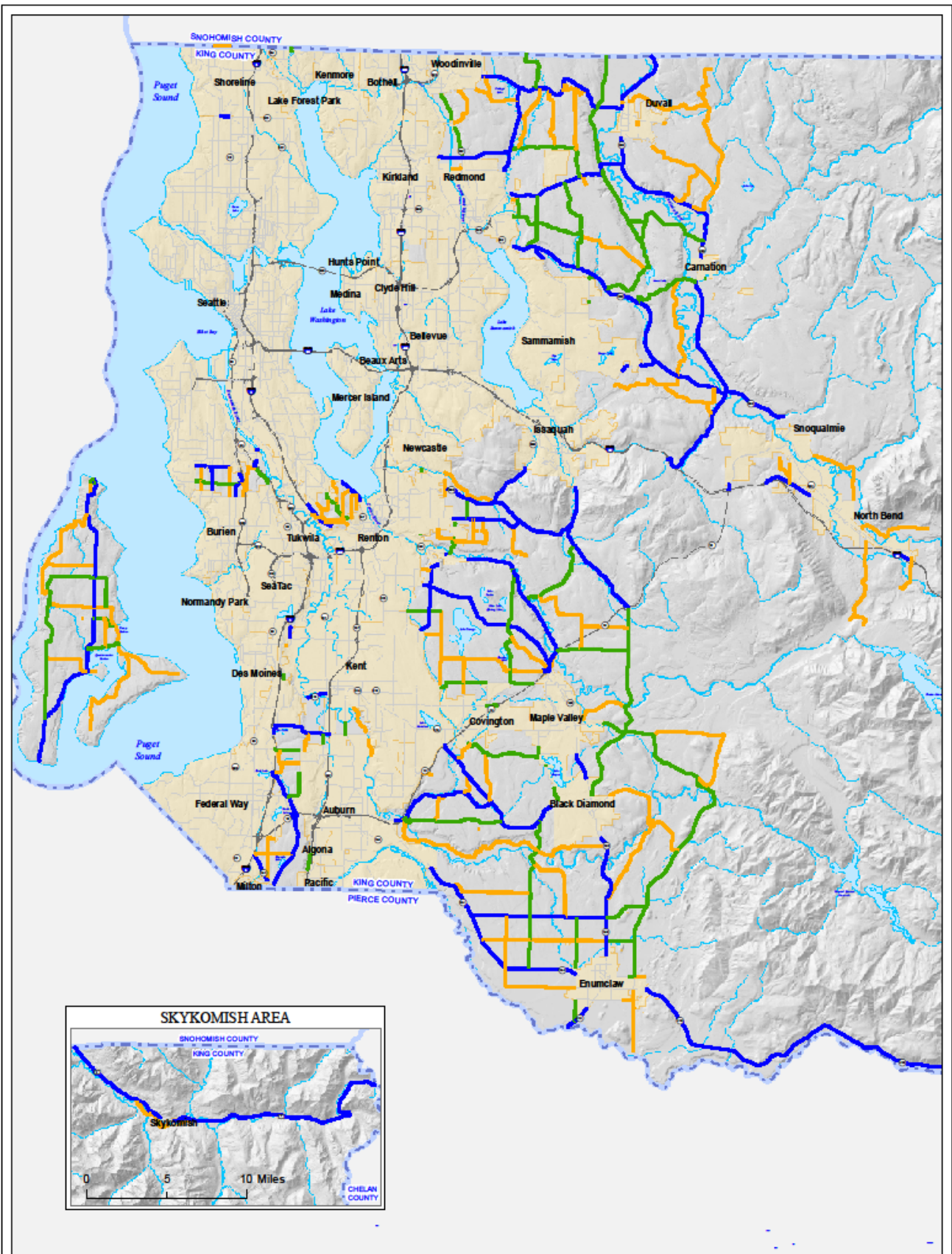
2016 King County Arterial Functional Classification

Unincorporated King County Roads

- Principal (P)
- Minor (M)
- Collector (C)

King County

SKYKOMISH AREA

0   5   10 Miles

N

0   5 Miles

5

The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice.

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III. Transportation Inventory

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1. Introduction

A. Requirements

The Growth Management Act [RCW 36.70A.070(6)(A)] requires an inventory of air, water, and land transportation facilities and services, including transit alignments, and general aviation facilities, to define existing capital facilities and travel levels as a basis for future planning. The inventory must include state-owned transportation facilities within the unincorporated King County boundaries. This document fulfills this requirement by describing King County's multi-modal transportation system and by identifying available resource materials.

B. Process

The County's approach to the inventory construction is that of reference, rather than collection. This approach will enable planners to evaluate inventory information and determine what data will best meet their studies' requirements. Even though the scope of the Comprehensive Plan Transportation Element is primarily focused on the unincorporated King County, the scope of the Transportation Inventory is generally countywide.

C. Coordination

The regional coordination of land use and transportation is mandated by the Growth Management Act [RCW 47.80.010].[1]King County has taken an active role in assuring a regionally coordinated transportation system. In cooperation with other central Puget Sound jurisdictions, King County is striving towards a regional approach to important planning issues such as level of service, concurrency, locations of regional and countywide transportation facilities, financing, non-motorized transportation, and Transportation Demand Management.

D. Organization

The inventory is organized into three categories—(1) an inventory of the air transportation facilities and services; (2) an inventory of marine transportation facilities and services; and (3) an inventory of land transportation facilities and services.

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[1] Revised Code of Washington 47.80.010. http://apps.leg.wa.gov/RCW/default.aspx?cite=47.80.010

2. Air Transportation System

The Growth Management Act requires an inventory of the air transportation system to define existing capital facilities and travel levels as a basis for future planning. The air transportation system plays an important role as part of the regional and national transportation network because it provides for quick and efficient intrastate, interstate, and international travel of passengers and cargo.

King County public-use airports represent an essential element of the County's transportation system and provide critical support to the King County economy. Twenty-two airports are located within King County.[i] The King County airports span a broad range in terms of scale and role, from the Port of Seattle, Seattle-Tacoma International Airport to King County International Airport-Boeing Field, to seaplane facilities and small privately owned airstrips.[ii] The King County airport inventory consists of public use and privately owned airport facilities which are open to the public.

The Puget Sound Regional Council (PSRC), Air Compatible Land Use Program Update Study, December 2011, included a wide variety of activities related to planning and support for the central Puget Sound region's public use airport system.[iii] Program activities were included such as airport ground access planning, regional air cargo planning, cooperative efforts with the WSDOT Aviation Division in planning for long-range airport capacity, and ongoing efforts to address airport compatible land use under the PSRC's Growth Management Act (GMA) authority. WSDOT is scheduled to release an update to the state Aviation System Plan in June, 2016.

The Air Compatible Land Use Program Update Study, King County International Airport's Adopted Master Plan, and Port of Seattle, Airport Statistics are available at:

http://www.portseattle.org/About/Publications/Statistics/Airport-Statistics/Pages/default.aspx

http://www.wsdot.wa.gov/aviation/Planning/

http://www.psrc.org/transportation/airtrans

http://www.kingcounty.gov/transportation/kcdot/Airport/Planning.aspx

http://www.portseattle.org/About/Publications/Pages/default.aspx

3. Marine Transportation System

The Growth Management Act requires an inventory of the marine transportation system to define existing capital facilities and travel levels as a basis for future planning. The marine transportation system plays an important role in the movement of people and goods within King County, supplying the main commuter link between Seattle's central business district and the west Puget Sound corridor and as the hub network for local, regional and international freight movements.

The marine passenger transportation system serves the entire Puget Sound region from Tacoma to Sidney, British Columbia. The facilities that serve King County include ferry terminals and vessels servicing ferry routes. Ferry service is primarily provided by Washington State Ferries and the King County Ferry District that is responsible for the King County Water Taxi passenger-only ferry service. Other passenger-only ferry operators offer more recreational and travel-related service such as Clipper Navigation, Inc. Kitsap County and the Port of Kingston are working toward developing service from Kitsap County across the Puget Sound.

A. Washington State Ferries

The Washington State Ferries was established in 1951 and is the largest ferry system in the United States. The system includes 20 terminals and 24 vehicle/passenger ferries, carrying over 23 million passenger and vehicle trips annually. A new pilot vehicle reservation system - debuted in 2009 – continues to expand on select routes to spread demand and reduce invest capital improvement costs associated with traffic control.[iv]

Washington State Ferries provides service to 20 different communities in 8 different counties, including King County. The service serves two vital transportation functions: As a marine highway and as a transit service provider.[v] They provide frequent mainland access to several island communities including Vashon Island in King County, Bainbridge Island in Kitsap County and Whidbey Island in Island County. Washington State Ferries takes people to and from work in the downtown Seattle business corridor and to other communities on the east and west sides of Puget Sound.

Detailed information about Washington State Ferry System and Long-Range Plan are available at:

http://www.wsdot.wa.gov/ferries/

http://www.wsdot.wa.gov/ferries/Planning/ESHB2358.htm

B. King County Marine Division

The King County Department of Transportation, Marine Division is responsible for the operations, moorage, and maintenance of the vessels that provide passenger-only ferry services in King County. Passenger-only ferry services are currently provided between downtown Seattle, Vashon Island, and West Seattle.

The Marine Division operates out of three terminals: Pier 50 in downtown Seattle and the ferry dock on Vashon Island, both leased from Washington State Ferries. The West Seattle ferry dock, located at Seacrest Park, is leased from Seattle Parks and Recreation. King County Marine owns a moorage and maintenance barge located on the Seattle waterfront.

The Marine Division owns three vessels: The MV Sally Fox and MV Doc Maynard are vessels constructed for the Marine Division in 2014 – 2015. Each vessel holds a capacity of 278 passengers. The MV Spirit of Kingston is a 150 passenger vessel that was acquired from the Port of Kingston in 2013.

In 2015, King County's Water Taxi provided service for over 515,000 passengers system-wide. In early 2015, the Marine Division released "Water Taxi Watch", a real time vessel tracking system for riders. In 2015, research began on the potential viability of expansion routes, primarily on Lake Washington and in the Puget Sound. This will include an assessment of passenger-only ferry expansion options that build on new transit options to be delivered through Sound Transit's University Link and other funded regional transit expansions being delivered in the next decade.

Additional information on services provided is available at:

http://www.kingcounty.gov/transportation/kcdot/WaterTaxi

C. Port of Seattle Marine Facilities and Services

The Port of Seattle plays a key role in transportation and travel to and from the Pacific Northwest, and is also a key builder of road and rail infrastructure, partnering with other agencies to improve freight traffic in the Puget Sound region. The Port operates:

- Passenger cruise terminals: Smith Cove Terminal and Pier 66.

- Four Commercial Marine Docks/Piers: Fishermen's Terminal, Piers 90/91, Maritime Industrial Center, and Bell Street Pier.
- Four public marinas: Bell Harbor Marina, Fishermen's Terminal, Harbor Island Marina, and Shilshole Marina.

Seaport publications on seaport activities, facilities plans, and service and activity levels are available at: https://www.portseattle.org/Cargo/SeaCargo/Pages/default.aspx

4. Land Transportation System

This section includes a wide range of information and references for land transportation related facilities, services and transportation demand management programs in King County. This information provides a foundation for the Comprehensive Plan transportation element and for future transportation planning.

County Roads

Road Log

The County Road Log represents a detailed inventory of physical and administrative features that describe the county's unincorporated roadway system. Physical features include information on pavement type, roadway and shoulder width, number of lanes, median, pavement type, retaining and sea walls, guardrails, sidewalks and walkways. Administrative features include information such as the roadway's functional classification and its comprehensive plan designation as being located in the urban or rural areas.

A general inventory of King County's road infrastructure as of 2016 includes the following:[vi]

Roadways	1,469 miles
Bridges	181
Traffic Signals	78
Traffic Control Signs	Over 44,000
Traffic Cameras	50
Drainage Ditches	~ 5.7 million feet

Additional information related to the road log can be obtained by contacting the Road Services Division, Strategic Business Operations Section, Project Support Services.

The King County Road Index map book, 2015 edition, is available at:
http://www.kingcounty.gov/operations/GIS/Maps/VMC/Transportation.aspx

Pavement Management System

The Pavement Management System is used by the Road Services Division to track pavement conditions and develop resurfacing programs for unincorporated King County roads. The pavement condition of arterials, including collectors, and local access roads are evaluated every two to three years.

For more information on the Pavement Management System, contact the King County Department of Transportation, Road Services Division or

visit: http://www.kingcounty.gov/depts/transportation/roads/paving-projects.aspx

Bridges

Bridges span physical obstacles such as bodies of water, creeks, streams, rivers, valleys, railroad crossings, and roads to connect King County's road network. County engineers inspect and maintain an inventory of 181 bridges across King County, from Vashon Island to Skykomish. [vii]

In 2016 this inventory included:

• 174 vehicular bridges wholly owned by King County Road Services Division.

• 3 bridges co-owned with other agencies.

• 3 pedestrian bridges.

• 1 safety corridor bridge

An updated list of bridge needs is included in the Annual Bridge Report, as required by King County Ordinance 11693.[viii] Roads Services is required to review and update its list of bridge needs for replacement/rehabilitation, seismic retrofit, and re-decking annually, preparatory to the Capital Improvement Program budgeting process.

The King County Annual Bridge Report is available at:
 http://www.kingcounty.gov/depts/transportation/roads/bridges.aspx

Roadside Barriers (Guardrails)

One way King County promotes safety on county-maintained unincorporated roads is by installing new guardrails, repairing existing barriers and rails, and upgrading older guardrails to meet current roadway standards. This network includes approximately 114 miles of guardrail. More information on guardrails can be obtained by contacting the Road Services Division, Engineering Services Section.

Traffic Control Devices

Traffic control devices are signals and information systems used to regulate, warn, or guide both vehicular and pedestrian traffic. These devices are placed on, over, or adjacent to a roadway, pedestrian path, or shared-use path. Examples of traffic control devices include traffic signals, signs, and pavement

markings. Information on traffic control devices can be obtained by contacting the Roads Services Division, Traffic Section at:

http://www.kingcounty.gov/depts/transportation/roads/traffic.aspx

Traffic Counts

Information on unincorporated area traffic counts can be found at: http://gismaps.kingcounty.gov/TrafficCounts/

Safety

The Road Services Division produces an annual Traffic Safety Report. This report reviews collision trends within unincorporated King County in the ongoing effort to reduce the number and severity of collisions. The report is intended to provide critical information that can be used to better allocate limited safety funds, increase driver awareness of safety concerns, and improve the safety of the traveling public.

King County Traffic Safety Reports are available at:
http://www.kingcounty.gov/depts/transportation/roads/traffic.aspx

Washington State Department of Transportation, statewide travel and collision data is available at:
http://www.wsdot.wa.gov/mapsdata/tdgo_home.htm

Maintenance Facilities

King County Road Services' Roads Maintenance Section is responsible for enhancing and maintaining over 1,400 miles of paved roadway.[ix] A map of the county's roads maintenance facilities can be found in Figure A on the page that follows. More information can be obtained by contacting the Roads Maintenance Section at:

http://www.kingcounty.gov/depts/transportation/roads/road-maintenance.aspx

Figure A

King County Road Services Division - Maintenance Facilities
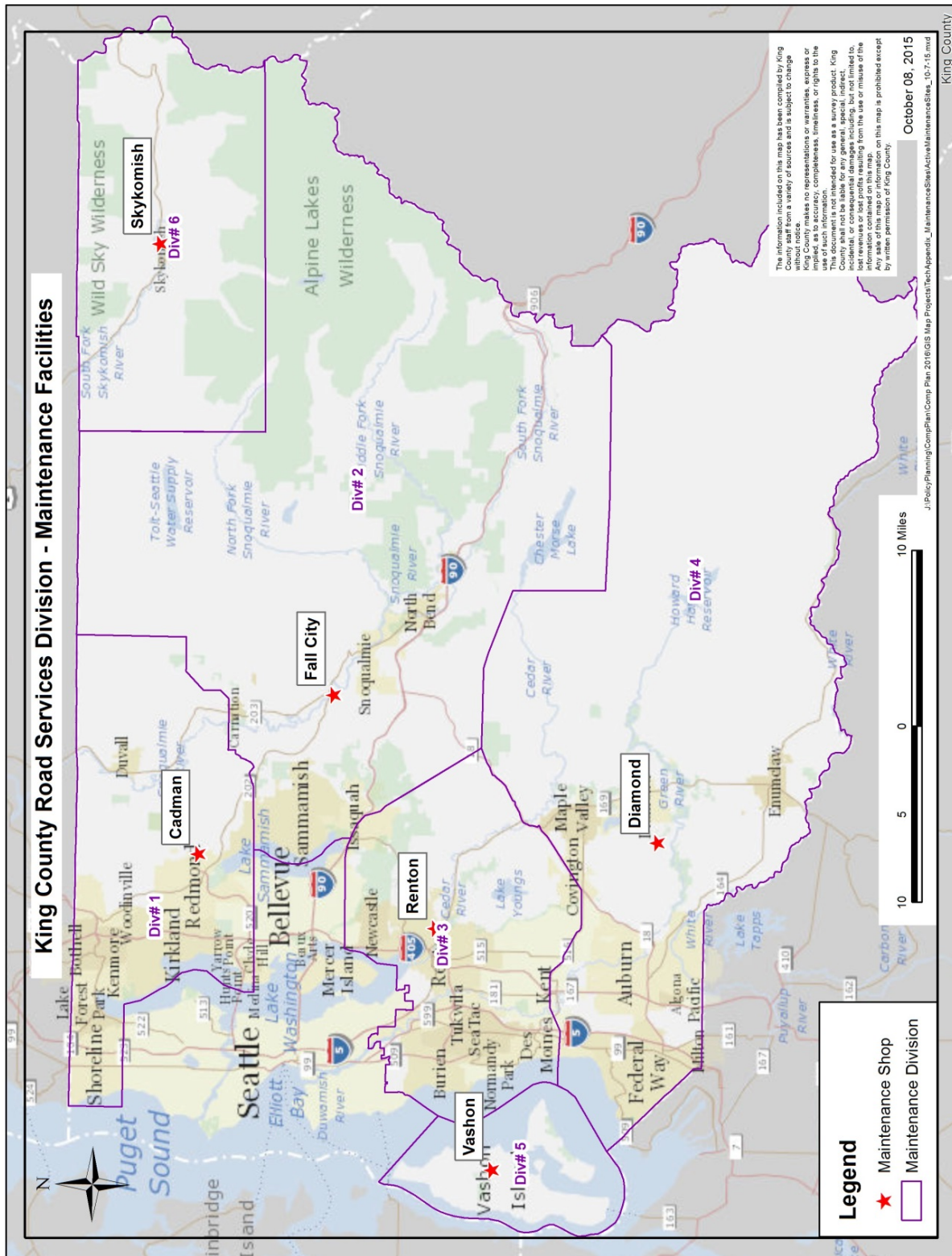
State and Federal Highways

Major Highways

The State Highways of Washington comprise of a network of state highways, including all Interstate and U.S. Highways that pass through the state, maintained by the Washington State Department of Transportation. Four Federal Highways and twenty-eight State Highway Routes are located in King County, including five ferry routes.[x] All state highways are designated by the Washington State Legislature.[xi]

Maps of the State Highways can be viewed at:

http://www.wsdot.wa.gov/Publications/HighwayMap/view.htm

Highways of Statewide Significance

Highways of Statewide Significance (HSS) include interstate highways and other state principal arterials that are needed to connect major communities in the state. The designation helps assist with the allocation and direction of funding.

A map of the HSS corridors is available at:
http://www.wsdot.wa.gov/planning/HSS/

A map of both state and regionally significant state highways within King County is available at:
http://www.psrc.org/transportation/t2040/los/

Transit Services

Transit services in King County are provided by four public transit agencies. King County Metro Transit (Metro) provides the vast majority of regular bus service and general public demand area response transit ("DART") available to King County residents. Pierce Transit and Community Transit provide commuter bus services into King County urban centers including downtown Seattle, downtown Bellevue, and the University District in northeast Seattle. Sound Transit provides regional high capacity transportation throughout parts of King, Pierce and Snohomish counties through commuter rail (Sounder), light rail (Link) and a regional express bus system (ST Express).

King County Metro Transit

In a service area of more than 2,000 square miles and 2 million residents, Metro operates over 200 bus, trolley and demand area response transit (DART) routes that serve destinations across King County.[xii][xiii]

Metro at a Glance (2015)[xiv]

- Fixed-route ridership: 121.8 million
- Vanpool ridership: 3.5 million
- Access ridership: 1.4 million
- Annual service hours: 3.6 million
- Active fleet: 1,473 buses
- Bus stops: 8,079
- Park-and-rides: 130
- Park-and-ride spaces: 25,468

A list of Metro routes and schedules, including route maps, is available at:
http://metro.kingcounty.gov/schedules/

Other information about Metro's system and performance can be found at: http://metro.kingcounty.gov/am/accountability/

Metro Services

RapidRide

RapidRide is Metro's arterial bus rapid transit network launched in 2010. As of 2015, Metro operates 6 RapidRide lines throughout King County. RapidRide separates itself from standard bus service with high frequency (every 10 minutes during peak hours), fewer stops, use of semi-exclusive lanes, and all-door passenger boarding and exiting. Additional information on RapidRide is available at:

metro.kingcounty.gov/travel-options/bus/rapidride/

Alternative Services

The King County Metro Alternative Services Program brings a range of mobility services to parts of King County that do not have the infrastructure, density, or land use to support traditional fixed-route bus service. As such, alternative services are an important part of Metro's efforts to cost effectively deliver transportation alternatives across King County. The program is guided by the King County Metro Transit Five-Year Implementation Plan for Alternatives to Traditional Transit Service Delivery adopted in 2012.

Alternative Services include: VanPool, MetroPool, VanShare, TripPool, SchoolPool, Real-Time Rideshare, CarPool, Community Shuttles, Emergency Ride Home, Community Van, and Bicycle Library.

Information on Metro's Alternative Services Program is available
at: http://metro.kingcounty.gov/programs-projects/alternative-services/

Access Paratransit
The ADA Paratransit Program provides next-day, shared rides on Access Transportation within ¾ of a mile on either side of non-commuter fixed route bus service during the times and on the days those routes are operating.[xv] Paratransit service is intended to offer a comparable level of service to that provided by regular bus service. Paratransit service is not required nor intended to meet all the transportation needs of persons with disabilities. Rather, it is intended to provide public transportation in a more specialized form. Individuals must be evaluated and deemed eligible prior to using ACCESS services. Eligibility is based on whether your disability prevents a person from performing the tasks needed to ride regular bus service some or all of the time. Metro provides ACCESS service through private contractors.

Additional information on the ADA Paratransit Program:
http://metro.kingcounty.gov/tops/accessible/programs/paratransit.html

Transportation Demand Management, Equity and Social Justice, and Partnership Programs
Metro offers many programs, products, and services to area employers, other organizations, and individuals. Major Metro programs include:

ORCA Business Products[xvi] – Employers can contract with Metro to provide ORCA cards as subsidized passes for their employees for access to public transportation services, including bus, commuter rail, Link light rail, streetcar, ferry, water taxi, vanpool/vanshare, and guaranteed ride home service. Employers can select a comprehensive program or a flexible package to suit their needs.

ORCA LIFT – This is a program that provides reduced transit fare that provides a discounted rate of $1.50 per trip for residents who earn less than 200-percent of the federal poverty rate, which is currently $23,340 for a one-person household.[xvii] ORCA LIFT is one of the largest programs of its kind in the United States.

Information on ORCA LIFT can be found at:
http://metro.kingcounty.gov/programs-projects/orca-lift/

Commuter vans (vanpool/vanshare) – Vanpools provide a complete trip, usually travel at least 10 miles each way from home or park-and-ride to a worksite and can have as many as 15 riders. Vanshares are intended to bridge the gap between public transportation (bus, train, water taxi, or ferry) and a final destination. Metro provides the van and covers rider support services, maintenance, insurance, fuel, tires and training for a per-rider monthly fee.

Community Access Transportation – This program provides vans, maintenance, and some operating funds to community organizations. [xviii] The program makes use of high-quality retired Access and vanpool vehicles for transportation services operated by these organizations. One example is the Downtown Circulator Bus, a free downtown circulator bus for people living on low incomes that provides access to health and human services in downtown Seattle. The circulator bus is operated through a partnership with the nonprofit organization, Solid Ground.

Bicycle programs and facilities – Metro supports bicycling in conjunction with public transportation by providing racks on every bus to accommodate three bicycles, racks on request for vanpools, bicycle lockers at park-and-rides and transit centers, a bicycle station, and information about getting around by bicycle. Bicycling is also included as a travel option in Metro incentive programs that encourage alternatives to driving alone.

Home Free Guarantee – Metro provides emergency taxi service for commuters who arrive at work without their personal vehicle (by transit, carpool, vanpool, bicycle or walking) and have an unplanned emergency or unscheduled overtime.

Information on this program can be found at:
http://www.kingcounty.gov/transportation/CommuteSolutions/products/HFG.aspx

JARC program – The Job Access Reverse Commute (JARC) Transportation Program partners with social service agencies, community based organizations, housing authorities, local jurisdictions and employers to assist with transportation issues for low income individuals.

Information on Metro's JARC program can be found at:
http://metro.kingcounty.gov/tops/jobaccess/jobseeker.html

In Motion – In Motion enlists local businesses, organizations, and communities as partners to entice people to register as participants and pledge to reduce car trips over a period of time. Participants earn rewards for their reduced trips.

Information on In Motion can be found at:
http://www.kingcounty.gov/transportation/kcdot/MetroTransit/InMotion.aspx

Rideshare Online - RideshareOnline.com provides free online self-serve ride matching services. The online system matches commuters interested in sharing rides in carpools, commuter vans, group biking, event travel, and with other parents transporting kids to school.

Information on Metro's Rideshare program can be found at:
http://metro.kingcounty.gov/tops/van-car/van-car.html

Special and Custom Bus Service
Metro provides special transit services for major community and sporting events in partnership with event sponsors.

Information regarding Metro's special event service can be found at:
http://metro.kingcounty.gov/up/spclevent.html

Contract Services
Metro serves as the operator for other transit services in Seattle and King County. Metro operates nine Regional Express bus routes and Central Link light rail for Sound Transit. Metro operates the Seattle Streetcar South Lake Union line for the City of Seattle.

Service Connections
Metro service connects to a wide range of other transportation services in King County, including for bus, rail, ferry, and air travel hubs. Metro provides intermodal connections with Sound Transit Link light rail and Sounder commuter rail service, Amtrak rail service, Washington State Ferries, and Sea-Tac International Airport. Metro also connects with other bus services including Sound Transit, Community Transit, Pierce Transit and intercity Greyhound bus service.

In June 2014, the King County Executive issued an executive order directing the King County Department of Transportation to increase joint planning and integration with Sound Transit. The action was

reciprocated by adoption of a related motion by the Sound Transit Board of Directors.

Further information on the collaboration between Metro and Sound Transit can be found at:
www.kingcounty.gov/elected/executive/constantine/News/release/2014/September/10_metro-sound-transit-report.aspx

Capital Facilities

Metro provides buses, use of semi-exclusive lanes, and facilities such as park-all-door passenger boarding and-rides and bus shelters for King County bus exiting. Voter approved sales tax and federal grants are the primary revenue sources.

Physical Plant

Metro's administrative offices are located at 201 South Jackson Street in downtown Seattle. Metro also has seven operating bases located throughout the county, and a variety of other physical facilities to support the provision of transit and ridesharing service. Major facilities include:

Central Campus and SODO (Seattle)

- Atlantic/Central Bases, 1270 6th Ave. S., Seattle
- Atlantic Maintenance, 1555 Airport Way South, Seattle
- Central Maintenance, 640 South Massachusetts, Seattle
- Ryerson Base, 1220 4th Ave. S., Seattle
- Transit Control Center, 1263 6th Ave. S., Seattle
- Employee Parking Garage, 1505 6th Avenue South, Seattle
- Tire and Millwright Shop, 1555 Airport Way South, Seattle
- Marketing Distribution Center, 1523 6th Ave South, Seattle
- Power Distribution, 2255 4th Avenue South, Seattle

Campus & Eastside

- Bellevue Base, 1790 124th NE, Bellevue
- East Base, 1975 124th NE, Bellevue
- Vanpool Distribution, 18655 NE Union Hill Road, Redmond

Tukwila

- South Base, 12100 East Marginal Way S., Tukwila

- Training and Safety Center, 11911 East Marginal Way S., Tukwila
- South Facilities, 11911 East Marginal Way S., Tukwila
- Component Supply Center, 12200 East Marginal Way S., Tukwila

Shoreline

- North Base, 2160 N. 163rd St., Shoreline

Metro operates the Downtown Seattle Transit Tunnel (DSTT), a 1.3 mile dual-bore transit-only facility with five stations. Four stations are served by bus and Link light rail, while Convention Place Station is served by buses only. The DSTT is served by 14 Metro bus routes, one Sound Transit Regional Express bus route, and Sound Transit Link light rail. Joint bus-rail operations began in the DSTT in 2009 with the start of Central Link light rail service. The DSTT is one of very few facilities in the world with joint operations. DSTT operating hours are 5 a.m. to 1 a.m. from Mondays to Saturdays and 6 a.m. to midnight on Sundays. Metro also operates service on the SODO busway, a transit-only roadway between South Spokane Street and Royal Brougham Way in Seattle.

Fifteen Metro routes use electric trolley buses. To support the electric trolley bus network, Metro operates and maintains a network of overhead power infrastructure and electrical substations to power the system.

Bus Stops and Shelters
Metro's transit system is very large and includes 9,200 bus stops and 1,568 bus shelters. Many of these stops and shelters are maintained by Metro in coordination with jurisdictions.[2]

Park-and-Ride Lots
A park-and-ride lot is a designated passenger facility where individuals can leave their private vehicles or bicycles to access public transportation. A park-and-ride lot can also serve as a park-and-pool lot, where individuals can rendezvous to form carpools and vanpools.

There are 130 park-and-ride facilities (64 permanent and 66 leased park-and-ride lots) in the King County Metro area, with a total of 25,489 vehicle spaces as the end of 2014.[xix] Metro, Sound Transit, and WSDOT own permanent park-and-ride lots within King County, and a wide variety of agencies and organizations own spaces that Metro leases for use. Metro maintains approximately 55 park-and-ride lots owned by Metro and WSDOT.

A list of park-and-ride locations with information on capacity, routes, and amenities can be found at: metro.kingcounty.gov/tops/parknride/

Metro's quarterly park-and-ride utilization reports can be found at:

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[2] http://www.kingcounty.gov/transportation/kcdot/MetroTransit/PowerAndFacilities/BusShelters.aspx

http://metro.kingcounty.gov/am/accountability/park-ride-usage.html

Charging Station Program

King County promotes the use of alternative fuel vehicles. King County's charging station program is an initiative aimed at growing the plug-in vehicle market. As of June 2012, King County Metro manages 27 earlier generation 110-volt plug-in outlets.[xx] The latest County effort adds 36 new, 220-volt electric vehicle charging stations at multiple locations. In a related effort, the County created the Metropool program, adding 25 all-electric vehicles to the Vanpool, Vanshare, and Motorpool programs.

More information on the Metropool program is available at:
http://metro.kingcounty.gov/tops/van-car/programs/metropool/index.html

More information on park-and-plug spaces and locations in King County park-and-rides is available at: http://metro.kingcounty.gov/tops/parknride/

Capital Program

Metro Transit is one of twelve capital programs at King County and is part of King County's Capital Improvement Program. Capital projects help to maintain and improve King County assets and infrastructure. Metro has its own designated revenue sources and service areas.

Metro's Public Transportation Fund Capital Program provides for ongoing replacement of aging infrastructure and supports service delivery and expansion. The focus of the Capital Improvement Program (CIP) is on maintaining existing infrastructure and systems, partnering with other regional transportation agencies and providing the physical capacity needed to support projected service. As a part of the long range planning effort started in 2013, Metro will review capital needs based on the future network.

More information can be found at: http://www.kingcounty.gov/exec/PSB/Budget/CIP.aspx

Information on King County's Transit Asset Management Program (TAMP) can be found at: http://www.kingcounty.gov/transportation/kcdot/MetroTransit/PowerAndFacilities/AboutUs.aspx

Sound Transit
Sound Transit is a regional transit authority implementing and providing a high capacity transportation system throughout parts of King, Pierce and Snohomish counties through commuter rail (Sounder), light rail (Link) and a regional express bus system (ST Express).   More information can be found here:

http://www.soundtransit.org/

ST Express Regional Bus Service

ST Express regional bus service includes limited-stop bus routes, partnerships with WSDOT to develop HOV direct-access projects, and a variety of community connection facilities including transit centers, access improvements, and park-and-ride lots. [xxi] ST Express buses travel between major cities in King, Snohomish, and Pierce counties.

Information on routes, related projects, and fares is found at:

soundtransit.org/Rider-Guide/ST-Express-bus

Sounder Commuter Rail

Sounder commuter rail uses diesel-powered locomotives and multi-level passenger coach trains that run on BNSF Railway Company railroad freight tracks.[xxii] Sounder shares the tracks with freight trains and ((-)) Amtrak passenger trains, using upgraded signals, switches, and street crossings. Trains travel between Lakewood and Seattle and between Everett and Seattle.

Information on routes, related projects, and fares is found at:

soundtransit.org/Rider-Guide/Sounder-train

Link Light Rail

Link light rail is an electrically-powered service that provides high-capacity transportation within the region's highest employment and transit ridership areas.[xxiii] Central Link light rail travels between the University of Washington campus in Seattle and Sea-Tac Airport.[xxiv]

Information on routes, related projects, and fares is found at:

soundtransit.org/Rider-Guide/Link-light-rail

System Expansion

The initial phase of the regional mass transit system was completed in 2016, connecting Sea-Tac Airport, downtown Seattle, and the University of Washington.[xxv] The second phase of "ST2", expands the transit system throughout the region, and is scheduled for completion in 2023. Sound Transit has begun planning for the expansion of the regional transit system. In late 2014, Sound Transit updated its Long-Range Plan, the roadmap for future development of the regional transit system

Based on its long range, Sound Transit is working to develop a new System Plan – "ST3" which was adopted by the voters in November 2016. (http://soundtransit3.org/)

Sound Transit's Long Range Plan can be found at:
http://www.soundtransit.org/longrangeplan

Service Integration

Sound Transit services are integrated with the local bus routes operated by King County Metro so that all services support and complement each other. A 1998 Memorandum of Understanding (MOU) between the two agencies established the basic principles under which a coordinated system will be planned and operated.[xxvi] The partnership was strengthened by an initiative announced in late 2014 by the King County Executive Dow Constantine to increase joint planning and integration between the two agencies for operating efficiencies and future service expansion.[xxvii]

Information on Sound Transit's services and plans is available at:
soundtransit.org/Projects-and-Plans

Sound Transit's Transit Development Plan Annual Reports are available at:
soundtransit.org/About-Sound-Transit/News-and-events/Reports/Transit-Development-Plan

Additional information and a full report on King County Metro and Sound Transit service integration is available at:
Getting There Together (Transit Integration Report, September 2014)

High Occupancy Vehicle System

The High Occupancy Vehicle (HOV) system is an important element of King County's and the region's multi-modal transportation system. High occupancy vehicle lanes - also known as carpool lanes, commuter lanes, diamond lanes, or bus lanes - are reserved for vehicles containing at least a specified number of occupants (such as 2, 3, 4, or more) or for transit vehicles.[xxviii] Such lanes can be on highways, on arterials, or on metered entrance ramps to highways. They may be physically separated from other lanes, or indicated with signage. Some operate only during certain hours. Other types of strategies that potentially promote higher vehicle occupancy include ridesharing programs, parking management, guaranteed ride home policies, and other employer-based programs.

Coupled with the County's Transportation Demand Management program, HOV facilities are designed to help accommodate growth by moving more people in fewer vehicles, reducing the need for new road construction or major widening projects on the County's existing arterial system. Recent changes to the HOV lane system include direct access ramps to support Sound Transit's regional bus service, as well as freeway to freeway improvements to interconnect the system. The HOV system is a crucial part of the central Puget Sound area's highway system, carrying more than 1/3 of freeway travelers during rush hours.[xxix] Today, approximately 310 lane miles of operating HOV facilities are available for use in King County by transit, carpools, and vanpools.

Information on the HOV system is available at: http://www.wsdot.com/HOV/default.htm

For a complete list of Sound Transit projects visit: http://www.soundtransit.org/Projects-and-Plans

Nonmotorized Facilities

Bicycle Parking and Lockers

Bicycle parking and secure storage support ridership by increasing options for people to connect to bus service or to meet a carpool or vanpool. King County park-and-ride lots and transit centers have bicycle racks and/or bicycle lockers on a space-available basis to cyclists who commute. Metro aims to reduce car travel to these locations by making it reliable to secure bicycles. Combined, Metro and Sound Transit currently provide 523 lockers across 40 locations for cyclists.[xxx]

Information on bicycle parking and lockers is available at:
http://metro.kingcounty.gov/tops/bike/parking/index.html

King County Trails

The King County Parks System includes more than 294 miles of regional greenway and shared use paths.

This expanding network includes over 175 miles of trails for hiking, biking, walking, and horseback riding. The backcountry trail system offers 130 miles of backcountry trails with year-round accessibility for hiking, mountain biking, and horseback riding. These trail systems provide extensive opportunities for recreation usage and non-motorized mobility and commuting throughout King County. The planned future Regional Trail system anticipates about 300 miles of King County regional trails.

Information about the King County Regional Trails System is available at:
http://www.kingcounty.gov/recreation/parks/trails.aspx

Historic and Scenic Roads and Highways

King County Heritage Corridors

In an effort to preserve the county's transportation history, King County has identified nine "Heritage Corridors" in unincorporated King County.[xxxi] These corridors share King County's history through its most formative decades of development, from the 1870s through the 1930s. They touch on industrial, commercial, agricultural, and maritime themes. Identification of these Heritage Corridors helps the county maintain and operate its historic and scenic roads in keeping with their unique character.

The Heritage Corridors program also includes public education materials that enhance the public's travel experience and lead to a greater understanding and appreciation of the region's transportation history. The county also encourages adjacent private property owners to support the preservation of the corridors.

The identified Heritage Corridors are:

☐ Cedarhurst Road / Westside Highway, Vashon Island

☐ Dockton Road, Vashon-Maury Island

☐ Green Valley Road, Auburn-Black Diamond

☐ Issaquah-Fall City Road, Snoqualmie Valley

☐ Osceola Loop, Enumclaw Plateau

☐ West Snoqualmie River Road, Snoqualmie Valley

☐ West Snoqualmie Valley Road / Carnation Farm Road, Snoqualmie Valley

☐ Old Cascade Scenic Highway, Stevens Pass

☐ Old Sunset Highway, Snoqualmie Pass

Information about King County's Heritage Corridors, including maps and final report, are available at: http://www.kingcounty.gov/depts/transportation/roads/historic-corridors.aspx

Washington State Scenic and Recreational Highways

Washington's Scenic and Recreational Highways, as designated in RCW 47.39, are important access routes to some of the most scenic resources and best recreational destinations in the state.[xxxii] In King County there are approximately 175 miles of designated Scenic and Recreational Highways. These include portions of I-90 (Mountains to Sound Greenway), US 2 (Stevens Pass Greenway), SR 410 (Chinook Pass Scenic Byway), and SR 202 (Cascade Valleys Scenic Byway).

A map of Washington Scenic and Recreational Highways is available at:
wsdot.wa.gov/LocalPrograms/ScenicByways/Map.htm

Corridor management plans are available at:
wsdot.wa.gov/LocalPrograms/ScenicByways/CorridorManagementPlans.htm

Rail

Interstate Rail Facilities

The rail network in the state has three distinct types of rail services: freight, intercity passenger, and commuter. The Class I railroad system primarily serves the inland transportation component of the supply chain for large volumes of import and export cargo moving through state ports including the Port of Seattle. Two Class I railroads, the BNSF Railway and the Union Pacific Railroad, as well as 24 short-line railroads operate through communities in Washington State. [xxxiii,xxxiv] Amtrak provides intercity passenger rail service along the I-5 corridor, this intercity rail service is known as Amtrak Cascades.[xxxv] As the demand for reliable passenger rail travel increases, stations are being expanded and refurbished to serve growing numbers of passengers and to provide them with enhanced security, comfort, and timely information. The Cascades High-Speed Rail Program consists of a series of projects that will increase service reliability and add two Amtrak Cascades round trips between Vancouver, B.C. and Portland. Currently there are two Amtrak Stations in King County.

Sound Transit's Sounder commuter rail uses diesel-powered locomotives and multi-level passenger coach trains that run on BNSF Railway Company railroad freight tracks.[xxxvi] Sounder shares the tracks with freight trains and Amtrak passenger trains, using upgraded signals, switches, and street crossings. Trains travel between Lakewood and Seattle and between Everett and Seattle.

A complete description of the existing freight and Amtrak facilities, projects, and data is available at:
http://www.wsdot.wa.gov/Freight/Rail/default.htm
http://www.wsdot.wa.gov/rail/

Information on Sounder routes, related projects, and fares is found at:
soundtransit.org/Rider-Guide/Sounder-train

Freight Transport

Freight transport, is a major function of the regional transportation system. The Puget Sound Regional Council (PSRC) has developed a comprehensive, multimodal Freight Strategy that will serve as the freight component of the adopted long range transportation plan, Transportation 2040.[xxxvii] The Freight Strategy describes the regional freight mobility system and incorporates all of the main freight modes, including rail, truck, air, and marine cargo. It examines the current and future conditions and issues as the region looks to planning for a sustainable transportation system out to 2040.

The PSRC Freight Strategy is available at:
http://www.psrc.org/transportation/freight

Additional information on the freight system in King County is available at:
http://www.wsdot.wa.gov/freight/
http://www.wsdot.wa.gov/Freight/FGTS/CountyMaps.htm

IV. Travel Forecast Summary

The Washington State Growth Management Act (GMA) requires the transportation element of comprehensive plans to include a forecast of traffic for at least ten years based on the adopted land use plan, and to provide information on the location, timing, and capacity needs of future growth (RCW 36.70A.70(6)(E). It also requires an estimate of traffic impacts to state-owned transportation facilities resulting from the land use assumptions. To meet these requirements, the King County Department of Transportation Road Services Division adopted the Puget Sound Regional Council's (PSRC) Regional Travel Demand Forecasting Model (Travel Model).

The PSRC Travel Model forecasts future travel patterns and conditions within the four counties (King, Kitsap, Pierce, and Snohomish) of the Puget Sound region.[3] The Travel Model produces data that are used to analyze the likely impacts of travel forecasts on the region's transportation infrastructure and environment and thus provides the foundation from which the PSRC develops many of its plans, most notably the regional transportation plan, *Transportation 2040*. The Travel Model is used to support the technical analysis of transportation projects and investments under consideration in the region.[4] In addition to transportation analysis, the travel model also supports growth management activities at the agency.

King County Road Services worked with PSRC modeling staff to run a model scenario with a forecast year of 2031. Raw model output was analyzed by King County planning staff. The forecasted p.m. peak hour (afternoon rush hour[5]) traffic volumes on state facilities were mapped to review performance on state facilities (Figure 1). Modeled traffic volumes and roadway capacities on local roads were also reviewed for indications of potential future congestion. Road segments where traffic volumes exceeded roadway capacities (ratios greater than 1) are were mapped (Figure 2). Planning and engineering staff considered Travel Model analysis and other factors in the development of projects for King County's Transportation Needs Report.

Detailed information on the traffic forecasting model and assumptions used for the Comprehensive Plan are available from the Puget Sound Regional Council.

Puget Sound Regional Council Travel Model information is available at:
http://www.psrc.org/data/models/trip-based-travel-model/
More information on Transportation 2040 is available at:
http://www.psrc.org/transportation/t2040

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[3] Puget Sound Regional Council, *Travel Demand Forecasting*, 1.
[4] Ibid., 3.
[5] Defined by PSRC as 3:00 pm – 6:00 pm

Figure 1

2031 Forecasted Traffic Volumes on State Facilities in Unincorporated King County (PM Peak Hour trips)

Source: Puget Sound Regional Council Travel Demand Forecast Model

Figure 2

PSRC 2031 Travel Model Forecast for Unincorporated King County*
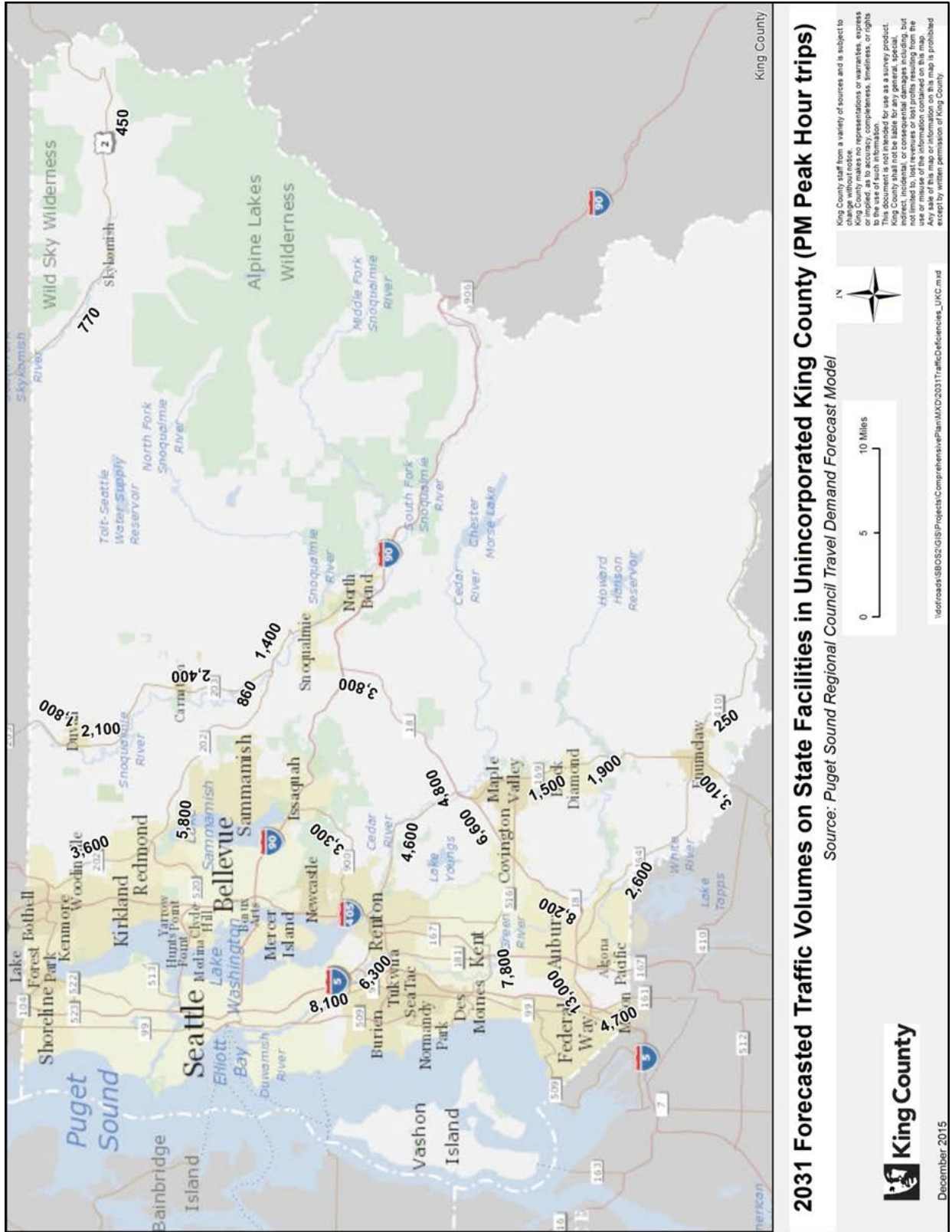
*PM Peak Travel, Volume/Capacity 1.0 or greater

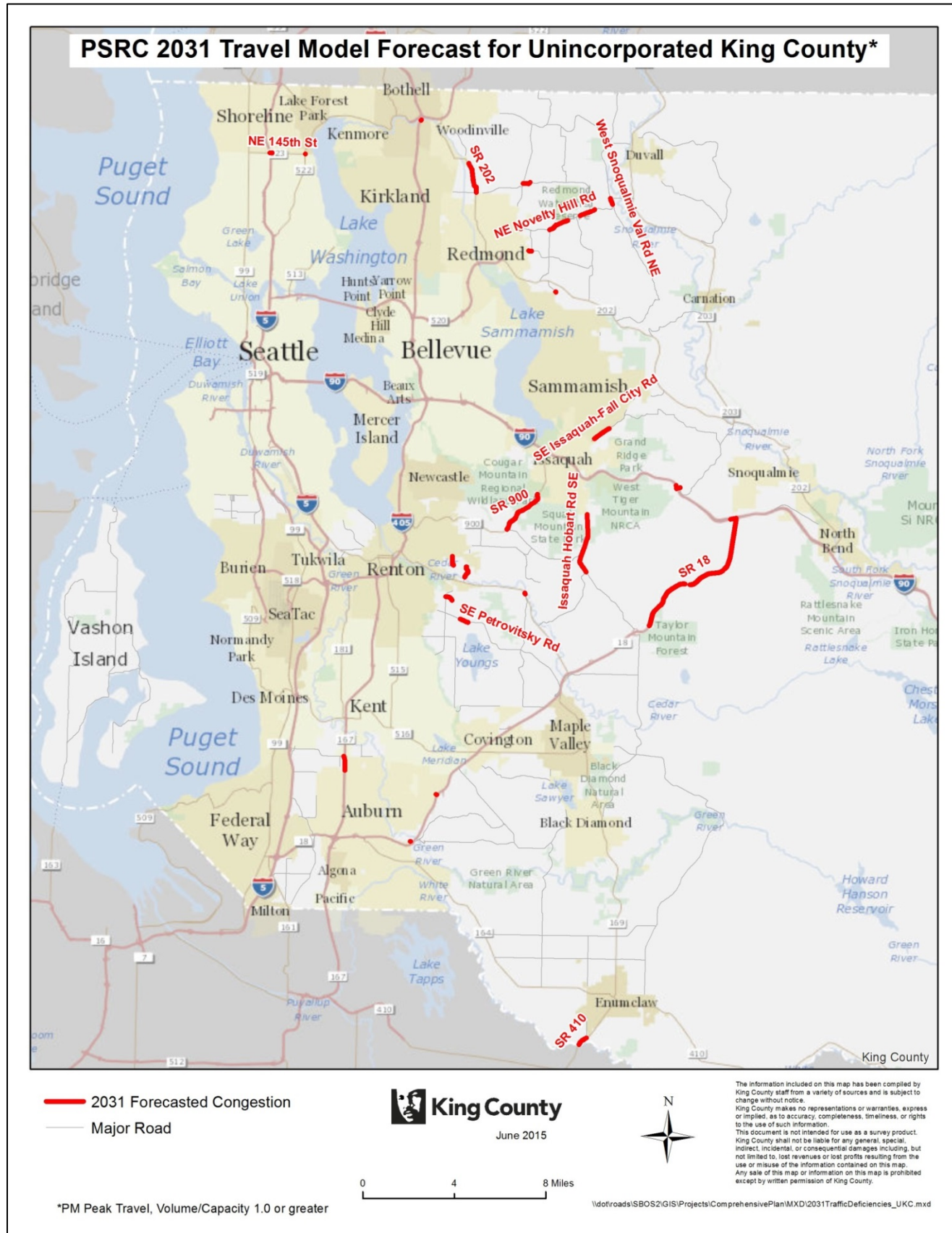[i] Federal Aviation Administration, "Airport Data."
[ii] Port of Seattle, "Airport Statistic: 2014 Airport Activity Highlights."
[iii] Puget Sound Regional Council, "Airport Compatible Land Use Program Update."
[iv] Washington State Ferries, "WSDOT - Ferries - Vehicle Reservations."
[v] Washington State Ferries, "Washington State Department of Transportation Ferries Division Final Long-Range Plan."
[vi] King County Metro, "About Metro - King County Metro Transit."
[vii] King County Department of Transportation Road Services, "2013 Annual Bridge Report," 3.
Ibid., 13.
[ix] King County Road Services Division, "2015-2016 Line of Business Plan," 5.
[x] Washington State Department of Transportation, "View and Print the State Highway Map."
[xi] Washington State Legislature, "RCW 47.04.020: Classification of Highways."
[xii] King County Metro Transit Division, "2014 Stratgeic Plan Progress Report," 5.
[xiii] King County Metro, "2013 Strategic Plan Progress Report," 26.
[xiv] King County Metro Transit Division, "2014 Stratgeic Plan Progress Report," 5.
[xv] King County Metro, "Accessible Services - King County Metro Transit."
[xvi] King County Metro, "Comparing Business Passport to Business Choice."
[xvii] King County Executive, "Find out Today If You Qualify for ORCA LIFT, Metro's New Reduced-Fare Bus Pass."
[xviii] King County Metro, "Accessible Services - King County Metro Transit."
[xix] Transit Route Facilities Group and Metro Transit Division, "Park-And-Ride Utilization Report," 1,3.
[xx] King County Department of Transportation, "Charging Station Program."
[xxi] Sound Transit, "ST Express Bus - SoundTransit."
[xxii] Sound Transit, "Sounder Train - SoundTransit."
[xxiii] Sound Transit, "Link Light Rail - SoundTransit."
[xxiv] Sound Transit, "University Link Extension."
[xxv] Sound Transit, "History: What Voters Approved."
[xxvi] Sound Transit Finance Committee, "Resolution No. R98-33."
[xxvii] King County Executive, "Joint Planning of Region's Bus and Rail Will Create Efficiencies and Enable Future Service Expansion."
[xxviii] Puget Sound Regional Council, "Congestion Management Strategies."
[xxix] Washington State Department of Transportation, "WSDOT - High Occupancy Vehicle (HOV) Lanes."
[xxx] King County Metro, "Bike Parking at Transit Facilities - Bike Travel - King County Metro Transit."
[xxxi] King County Road Services, "Historic and Scenic Corridors Project - King County Road Services."
[xxxii] Washington State Department of Transportation., "WSDOT - Washington State Scenic and Recreational Highways."
[xxxiii] Washignton State Department of Transportation, "WSDOT - Freight Rail."
[xxxiv] Ibid.
[xxxv] Washington State Department of Transportation, "WSDOT - Passenger Rail in Washington."
[xxxvi] Sound Transit, "Sounder Train - SoundTransit."
[xxxvii] Puget Sound Regiona Council, "Freight Mobility / FAST Corridor."