

Southwest King SMART Corridor

Corridor Description

The cities of Seattle (south of downtown), Federal Way, Auburn, Kent, Tukwila, Renton, Burien, and SeaTac make up most of the Southwest King SMART corridor. The corridor also includes other suburban communities, rural communities, and urban and rural portions of unincorporated King County.

The Southwest King SMART corridor includes major commercial/retail centers, industrial activity areas, and other trip generators that have an effect on travel within the corridor and the whole region. Most of the corridor land use is urban or suburban in nature. Major commercial/retail centers exist in downtown Seattle and many of its neighborhood community centers, including West Seattle and Beacon Hill. Large suburban commercial/retail centers exist in the Southcenter Mall area that is located at the intersection of I-405 and I-5, and at the Super Mall of the Great Northwest that is located in Auburn at the intersection of SR 167 and SR 18.

A major industrial activity area is located along the Duwamish Waterway south of downtown Seattle, and includes Boeing Field and Port of Seattle facilities. Suburban major industrial activity centers are located north of downtown Renton next to I-405 where Boeing and Paccar are located, and in Kent along SR 181 where another Boeing plant and other industries are located. Significant freight traffic originates from the warehouses in the Green River Valley.

Other major trip generators in the corridor include the many hospitals, and special events that occur at Safeco Field, and Qwest Field and Exhibition Center. Another major trip generator in the corridor is the Seattle-Tacoma (Sea-Tac) International Airport, which is located west of I-5 in the city of SeaTac. Sea-Tac International Airport is the only major commercial airport in the Puget Sound region. The corridor also serves major north-south and east-west freight and passenger rail corridors.

Major employers in the corridor include:

- Weyerhaeuser
- Starbucks
- REI
- Port of Seattle

2009 Population Estimate	559,000
2009 Covered Employment Estimates	
Metropolitan Cities: Seattle	115,817
Core Cities: Renton, Burien, SeaTac, Kent, Federal Way, Auburn, Tukwila	217,907
Larger Cities: Des Moines	5,287
Smaller Cities: Milton, Pacific, Normandy Park, Algona	3,395
Unincorporated Urban	9,540
Rural	135
Total	352,081

Existing Congestion and Mobility Conditions

Roadways: The following facilities operate at 70% of the posted speed limit during peak periods and therefore have been identified as a bottleneck and/or chokepoint by WSDOT:

- I-90 from Downtown Seattle to Bellevue
- Segments of I-5 through Seattle and Tukwila
- I-405/ I-5 interchange and I-405 from Tukwila to Renton
- SR 99 through Duwamish Manufacturing/Industrial Center
- SR 900 from I-5 to 64th Ave S vicinity
- SR 167 from county line north through Kent and SW 34th St vicinity to I-405 interchange
- Segments of W. Valley Highway north of SR 516
- SR 516 at S 216th St and between SR 167 and East Valley Highway
- SR 509 at 21st Ave SW and SR 99
- SR 18 east of I-5 to Weyerhaeuser Way S
- Segments of SR 164 south of SR 18

Arterials identified by the Regional Traffic Operators Committee as key arterials for freight, transit, high volume/capacity ratio and alternate routes to the interstate include:

- S. 2nd, S 3rd St/ Houser Way, Bronson Way/Sunset Blvd NE/Rainier Ave S/ Airport Way S/Logan Ave S/SR 900/ 17th Ave NW/NW Sammamish Rd/SE 56th St (K16): Between SR 167 and East Lake Sammamish Parkway
- S Jackson St/ Rainier Ave S (K25): Between 4th Ave S and Grady Way
- SR 99 (K17): between the Snohomish/King County line and the Pierce/King County line.
- 1st Ave N/1st Ave S/Myers Way S/1st Ave S/SR 509/S 216th/SR 516/South Kent Des Moines Road/West Willis Street (K22): between Mercer Street (in Seattle) and Central Ave S (in Kent)
- S 154th/Southcenter Blvd/ Grady Way/ I-405/Main Ave S (K23): Between SR 99 and SR 900
- Airport Way S (K70): Between 4th Ave South and Boeing Access Road
- 4th Ave/ 4th Ave S/East Marginal Way South/Interurban Ave South/West Valley Highway/SR181/68th Ave S/West Valley Highway (K20): Between Denny Way and Jovita Road
- Lind/SW 16th/E Valley Hwy/E Valley Road/84th Ave S/Central Ave/Central Ave/Auburn Way (K58): Between Grady Way and SR 164
- 16th Ave S/SR 161/Enchanted Parkway South/Meridian Ave E (P1): Between SR 99 and 224th Street E

Pavement Conditions²²: The following are the pavement condition index (PCI) scores for the Southwest King County **SMART** Corridor

Condition	PCI Range	Jurisdiction	2008 Weighted Avg.* Jurisdiction PCI
Excellent	89-100	Seattle	68.2
Good	67-88	Renton	56.4
Fair	49-66	Burien	76.0
Poor	21-48	Seatac	68.4
Fail	<20	Kent	81.8
		Federal Way	77.2
		Auburn	67.0
		Tukwila	63.2
		Des Moines	69.4
		Pacific	53.1
		Normandy Park	64.6
		Algona	62.9
		Unincorporated King County	75.8
		King County Weighted Average*	70.6

* weighted by length of roadway segment (ft)

Roadway Safety: PSRC is building on the safety policy guidance outlined in VISION 2040 and aligning it with the goals, strategies and objectives identified in the Washington State Strategic Highway Safety Plan, *Target Zero*. This plan aims to reduce serious injury and fatality collisions to zero by 2030 by focusing on four priority areas that promote safer and smarter roadways, safer walkways and pathways for bicyclists or pedestrians, enhanced emergency response systems, and improved passenger and driver behavior. The following map identifies the locations of collisions that resulted in a serious injury or fatality in 2007.

Ferries:

There are nine primary ferry routes that serve cross-Sound routes, of which three operate from the Fauntleroy ferry terminal located in West Seattle:

- Seattle/Vashon Island Passenger Only
- Fauntleroy (West Seattle)/Vashon Island
- Fauntleroy (West Seattle)/Southworth

²² Pavement Condition Index (PCI) scores are reported to WSDOT by individual jurisdictions, or are collected by WSDOT in the case of smaller cities, on a biennial basis. PCI scores are a composite measure representing environmental and structural distresses on pavement and measured on 0-100 scale where zero is the lowest. The scores presented in this document are not representative of a jurisdiction's entire roadway network; rather they include the principal and minor arterials for which each jurisdiction has submitted PCI information per requirements of RCW 46.68.113. Scores have been weighted by the length of the measured roadway segments to present a more accurate representation of the condition of the arterial network.

In addition, the King County Ferry District operates two passenger-only ferry routes from Colman Dock in downtown Seattle:

- Seattle/West Seattle
- Seattle/Vashon Island

Transit: King County Metro, Sound Transit, and Pierce Transit all provide service in this corridor, particularly from downtown Seattle. In 2006, I-5 had seven Sound Transit routes operating on it, most to downtown Tacoma and Pierce County, but one also to Sea-Tac International Airport. Sound Transit operates two bus routes on SR 167 and one route on I-405 from Bellevue to Burien to Fauntleroy Ferry Terminal in West Seattle. In addition, Sound Transit operates the Sounder Commuter Rail line south from Seattle to Tukwila, Kent, Auburn and into Pierce County. Pierce Transit has three bus routes that operate into South King County to the Transit Center in Federal Way. King County Metro operates transit centers jointly with Sound Transit at Federal Way, Auburn, Kent, Burien, and Renton. The King County Metro Joint Bus and Light Rail transit tunnel operates through downtown Seattle with underground stations at International District, Pioneer Square, University Street, Westlake, and Convention Place. The E3 Busway south of downtown provides a transit-only route for buses and Central Link LRT to avoid I-5 and downtown Seattle congestion, and queue up for the joint Bus/LRT Tunnel.

Existing Transit Congestion: Existing transit congestion in this corridor matches the WSDOT “Famous Commutes” of I-5 and I-405. Transit routes from downtown Seattle to West Seattle were identified as operating on heavily congested arterials with all five types of transit congestion. The Rainier Valley bus routes, as the top ridership routes in the region, experience arterial congestion affecting transit reliability, which was improved by the opening of Central Link LRT in a dedicated right-of-way in 2009. From the Transit Competitiveness Index analysis, there is a need for new service directly connecting West Seattle to Bellevue and Redmond along I-90, rather than the long commute along I-405. From the volume vs. capacity ratio (V/C) analysis, the transit service on SR 509 showed a need for additional transit capacity from Seattle to Burien.

Special Needs Transportation: King County Metro’s ADA Paratransit Program provides next-day, shared rides on *Access Transportation* within 3/4 of a mile on either side of non-commuter, fixed-route bus service during the times and on the days those routes are operating. Access is a shared-ride shuttle service for people who, because of their disability, are unable to ride the regular fixed-route bus service within King County. Eligibility is based on whether the disability prevents the rider from performing the tasks needed to ride regular bus service some or all of the time. Metro Transit, Pierce Transit, Community Transit, Everett Transit, Kitsap Transit, Intercity Transit, and Jefferson Transit have a joint paratransit eligibility agreement. Persons found eligible by any of those agencies can use paratransit service offered by the other agencies. Applications for eligibility are processed by the transit agency that serves the area where the rider lives.

Regular accessible bus service is intended to be the primary mode of public transportation for persons with disabilities.

Going beyond the required ADA services, through its Community Transportation Program, King County provides:

- Enhanced Access Transportation Service (expanded service area beyond the ¼-mile of fixed-route service, advance reservations, etc.)
- Taxi Scrip Program (allows disabled low-income residents to purchase taxi scrip at 50% discount)
- Transit Instruction Program (free training for persons with disabilities on how to ride regular transit)
- The Hyde Shuttle (free van service for seniors 55 or older and people with disabilities living in Central or SE Seattle during weekdays)
- Community Access Transportation:
 - CAT Advantage Vans (Provides retired Access and vanpool vehicles to participating agencies, including emergency response, vehicle maintenance and repairs, driver training, and technical assistance)
 - CAT Vanworks (Provides retired Access and vanpool vehicles and pays the cost of standard Vanpool agreement on behalf of local agencies that have a number of clients who are eligible for Metro’s ADA Paratransit Access program and are traveling to work sites.)

Other transportation programs at Metro include:

- *Dial-a-ride Transit or DART* (Using vans that can go off regular routes to pick up and drop off passengers within a defined service area, DART service may allow you to arrange for transit service closer to a location.) DART service in South King County includes community connector service in Federal Way, Kent and Kent East Hills, Algona/Pacific and Auburn.
- Job Access Transportation Program or *JARC* (Comprehensive approach to providing transportation to transition low-income and welfare reform clients into employment)
- Rideshare Operations (provides Ridematch, vanpool and Rideshare Plus for sharing the ride to work, school or other frequent destinations. Lift-equipped vehicles are available for vanpools.)
- Custom Bus (service for employers and schools. Routes are designed to meet the specific needs of the business or educational facility. Fares are based on the length of the trip; however, a current Regional Reduced Fare Permit, reduced fare sticker, or an Access Pass is valid for the fare.)
- Car sharing (King County Metro and the City of Seattle have joined with Mobility, Inc. to introduce the car sharing program, Zipcar, to the Seattle region.)
- Bicycling (Every Metro bus has a bicycle rack that can accommodate two bikes, and many vanpools are also equipped for transporting bikes. No special permit or extra fare is required.)

Community Resources:

- Hopelink coordinates transport to services covered by Medicaid through Medical Transportation Brokerage.
- Crisis Clinic operates the Community Information Line providing information and referral assistance.
- Senior Services has two programs to assist seniors:
 - Senior Shuttles, using both paid and volunteer drivers, transport seniors to hot meal programs, medical appointments, senior centers, grocery stores, and other local destinations. Service area and type of service is specific to each van.
 - Senior Services Volunteer Transportation with volunteers driving their own vehicles providing transportation to seniors 60 years of age and older living throughout King County to medical and other essential appointments. Volunteers not only provide a ride but also wait with seniors at their appointments before driving them home, offering a helping hand and moral support.

Beyond the transit agency-provided special needs transportation services listed above and on Findaride.org, numerous additional human services organizations have been identified as having a transportation role. Please also refer to Appendix C—Inventory of Services—in the Coordinated Plan.

TDM Programs: The Southwest King Corridor contains approximately 165 Commute Trip Reduction-affected work sites along I-5 and SR 167 with notable concentrations at Sea-Tac Airport and manufacturing and industrial centers (MICs) in Seattle and Kent. The Duwamish TMA continues their efforts targeted towards members of the Manufacturing and Industrial Council, located primarily in the Duwamish area but also in Ballard and Interbay. All areas of the corridor are impacted by programs and services offered by jurisdictions and transit agencies that support investment in alternative mode infrastructure such as vanpools and transit service, as well as programs designed to discourage single-occupant vehicles.

Transportation System Management and Operations: I-5 between Seattle and Federal Way as well as SR 167 are instrumented with cameras and detection equipment to provide data back to traveler information portals such as the WSDOT Flow map. Cameras and detection also assist with quickly identifying incidents from the traffic management centers. There are currently six traffic management centers in the corridor: WSDOT NW Region, Seattle, King County, Auburn, Kent and Renton. There are also roving incident management teams to assist with incident clearance to reduce incident-related congestion and delay. Transit Signal Priority is placed on some major arterial routes. Traffic signal coordination exists on some major arterials but there is still a need for improved multi-agency coordination. One example of successful implementation of multi-agency signal coordination is on the Trans Valley Corridor. SR 167 has a tolled high-occupancy vehicle lane which utilizes automatic toll collection technology. Southwest King is included in various regionwide ITS programs such as 511, transit trip planning and the ORCA regional transit fare card. All major freeways are included in the WSDOT traveler information web and mobile applications displaying travel times. The Active Traffic

Management technique of speed harmonization was deployed on I-5 south of Seattle in July 2010.

Bicycle and Pedestrian Facilities²³: There are several bicycle travel options serving parts of this corridor. There are off-road facilities that include the Duwamish River Trail, Alki Waterfront Trail, BPA-Power line trail, Green River Trail, and Interurban Trail. Critical connectivity and coverage gaps exist in the bikeway network. The trail network is more advanced in its development in the north-south direction than it is in the east-west direction. The on-road bicycle network needs significant improvements to ensure it adequately accommodates safe, connected bicycle travel. There are some difficult roadway crossings that need safety improvements. There is very limited wayfinding signage.

Bicycle and Pedestrian Safety: The street network in much of the South Seattle/North Highline area is laid out in some form of a grid pattern highly conducive to walking, although there are gaps in the sidewalk network. Street crossing improvements throughout the corridor are needed, particularly across a number of major arterials such as Pacific Highway South, West Valley Highway, and East Valley Highway/Central Avenue/Auburn Way. The poor quality of crossing facilities, as well as the long distance between crossing points, makes long sections of many of these busy arterials into major pedestrian barriers dividing neighborhoods. Areas that are perceived to be unsafe discourage walking.

As part of the *Target Zero* safety efforts, schools in the Southwest King County SMART Corridor have been focusing on the Safe Routes to School approach, successfully obtaining grants to develop their programs. Supporting safe and healthy students, the Seattle Public School District offers:

- Safe Routes Maps for all Schools serving K-5 students
- A District-wide School Traffic & Safety Committee
- Assistance to School Safety Patrols

Freight: Each of the major facilities identified above are significant to freight and are classified as either T1 or T2 on the State of Washington's freight tonnage classification system, each moving more than 4-10 million tons per year. The Southwest King SMART Corridor also contains a number of designated regional growth centers which are likely to generate smaller specialized deliveries. The Duwamish Manufacturing Industrial Center in this area serves as a freight generator for a variety of commercial vehicle movements, including those from the Port of Seattle facilities. The North Tukwila Manufacturing Industrial Center in this area serves as a freight generator for a variety of commercial vehicle movements, and the Kent Manufacturing Industrial Center generates freight more specific to warehousing and distribution activity.

²³ Existing conditions provided in fall 2009 by participants in the Bicycle and Pedestrian Advisory Committee.

Park-and-Ride Lots: The Southwest King County **SMART** Corridor contains 37 total park-and-ride lots, 15 major (over 250 stalls), and 22 smaller (fewer than 250 stalls). The corridor has a total of 9,702 stalls and an average utilization rate of 53% (2009).

Park-and-Ride Lot	2009 Capacity	2009 Occupancy	2009 Utilization
All Saints Lutheran Church	75	60	80%
Auburn Garage at Auburn Station*	507	452	89%
Auburn P&R	358	161	45%
Auburn Surface Lot at Auburn Station	114	113	99%
Beverly Park First Baptist Church	12	1	8%
Burien Church of God	20	1	5%
Burien Municipal Parking Lot**	87	46	53%
Burien Transit Center***	304	245	81%
Community Bible Fellowship	29	2	7%
Family Life Center-Church of God	27	2	7%
Federal Way Transit Center	1,200	1,000	83%
Federal Way/S 320th St	877	442	50%
Fred Meyer, Renton	21	26	124%
Holy Family Church	23	2	9%
Kent Garage at Kent Station****	876	768	88%
Kent Surface Lot at Kent Station^	225	180	80%
Kent/Des Moines	370	340	92%
Kent/James Street	713	138	19%
Normandy Park Congregational	10	1	10%
Olson Place SW/Myers Way	98	107	109%
Our Saviour's Baptist Church	24	4	17%
Peasley Canyon Rd/West Valley Hwy	54	34	63%
Redondo Heights P&R	697	42	6%
Renton First Baptist Church	96	48	50%
Sonrise Evangelical Free Church	10	4	40%
South Federal Way P&R	515	306	59%
South Renton P&R	373	367	98%
Spokane/Airport	25	22	88%
St. Columba's Episcopal Church	15	4	27%
St. Luke's Lutheran Church-Federal Way	20	1	5%
Star Lake	540	430	80%
Sunrise United Methodist Church	25	2	8%
SW Spokane St	55	26	47%
The Church by the Side of the Road	28	4	14%
Tukwila International Blvd Station^^	600	476	79%
Tukwila Interurban Investment	41	44	107%
Tukwila P&R	255	251	98%
Tukwila Surface Lot at Tukwila Station^^^	199	164	82%
Twin Lakes	600	108	18%

* Capacity increased from 500 7/09

** Closed 5/09

*** Reopened 5/09

**** Capacity Increased from 874 2Q 2009

^ Capacity Decreased from 227 2Q 2009

^^ Opened 7/18/09

^^^ Capacity Increased from 185 2Q 2009

Security and Emergency Management: According to the Regional Transportation Recovery Plan there are six potential disruption scenarios that have been identified in Southwest King County. The following describes the potential system disruption/closure and the most likely reroutes. See Maps and Alternate Routing Plan for specific and additional information.

King County Closure of SR 167 – I-405 to Pierce County Line

There are two routes presented as alternatives. The primary route entails diverting traffic from SR 167 to I-5. The secondary route entails diverting traffic from SR 167 to I-5 onto SR 99.

King County Closure of I-405 from I-5 to SR 167

For the closure of I-405 from I-5 to SR 167, the primary reroute for north to south traffic will be diverted from I-405 onto I-90 to I-5. A secondary route will entail diverting traffic from I-405 onto SR 167, SR 18 and onto I-5. The primary reroute for south to north traffic will be diverted from I-5 onto I-90 to I-405. A secondary route will entail diverting traffic from I-5 onto SR 18, SR 167 and on to I-405. Lake Washington could be used as an additional transportation corridor for passenger-only ferries at various locations.

King County Closure of I-405 Exits 2 to 4

For the closure of I-405 between exits 2 and 4, there is one major alternate route which will be as follows:

- Northbound traffic from I-405 will be diverted onto I-5 to I-90 and back on I-405.
- Southbound traffic from I-405 will be diverted onto I-90 to I-5 and back on I-405.
- Lake Washington could be used as an additional transportation corridor for passenger-only ferries at various locations.

King County Closure of I-5 from SR 599 to SR 900

There are two routes presented as alternatives. The primary route for both north and southbound traffic entails diverting traffic from I-5 onto SR 99, SR 509 to SR 518 back onto I-5. The secondary route is only a southbound alternative that entails diverting traffic from I-5 onto SR 99, SR 599 back onto I-5.

King County Closure of SR 181 from I-405 to SR 516

There are two routes presented as alternative routes for this scenario. The primary route entails diverting traffic onto I-405, I-5 to SR 516. The secondary route entails diverting traffic from I-405 at SR 181 to SR 167.

King County Closure of West Seattle (High) Bridge

The closure of the West Seattle Bridge may cause closures with the lower bridge and may restrict access to the Duwamish Waterway, which is critical for the maritime industry. The West Seattle High Bridge is located over navigable waterways, which are regulated by the United States Coast Guard. The U.S. Coast Guard determines the opening and closing of the waterway.

The King County Water Taxi operates between downtown Seattle and West Seattle. Increase in ferry service may be able to be provided by local private ferry operators. For alternate routes for the West Seattle High Bridge please see Maps and Alternate Routing Plan for specific and additional information.

King County Closure of I-5, I-405 and SR 518 Interchange

For the closure of I-5, I-405 and SR 518 Interchange, there are two routes presented as alternatives. One route details moving traffic within the mainline of Seattle. Another route details diverting traffic from I-5 onto SR 18 to SR 167 to I-90 and back onto I-5.

King County Closure of I-5/I-90 Interchange

The I-5 and I-90 Interchange is located southeast of downtown Seattle and provides many different access routes to both downtown Seattle and to I-5 and I-90. It also is a significant freight route for east-west traffic to and from the Seattle-area. For this closure there are several routes presented as alternatives.

- For north-south through traffic use I-405.
- For local traffic north of the interchange use SR 520 to I-405.
- For local traffic south of the interchange use SR 99 to SR 519.
- Lake Washington could be used as an additional transportation corridor for passenger-only ferries at various locations.
- There is also a potential for developing a number of alternative one-way couplets to divert traffic depending on the extent of the damage.

Pierce County Closure of I-5 SR 16 Interchange

There are two routes presented as alternatives for this scenario. The primary route entails diverting traffic from the I-5 SR 16 interchange onto SR 512 to SR 167 to I-405 back onto I-5. This is strictly a local alternative and would not be suitable for freight trucks. The secondary route is for regional traffic. Divert traffic from I-5 to I-90, I-82, I-84 and back to I-5.

Southwest King County SMART Corridor



Regional Growth Centers:

- Burien
- Seatac
- Tukwila
- Kent
- Federal Way
- Auburn

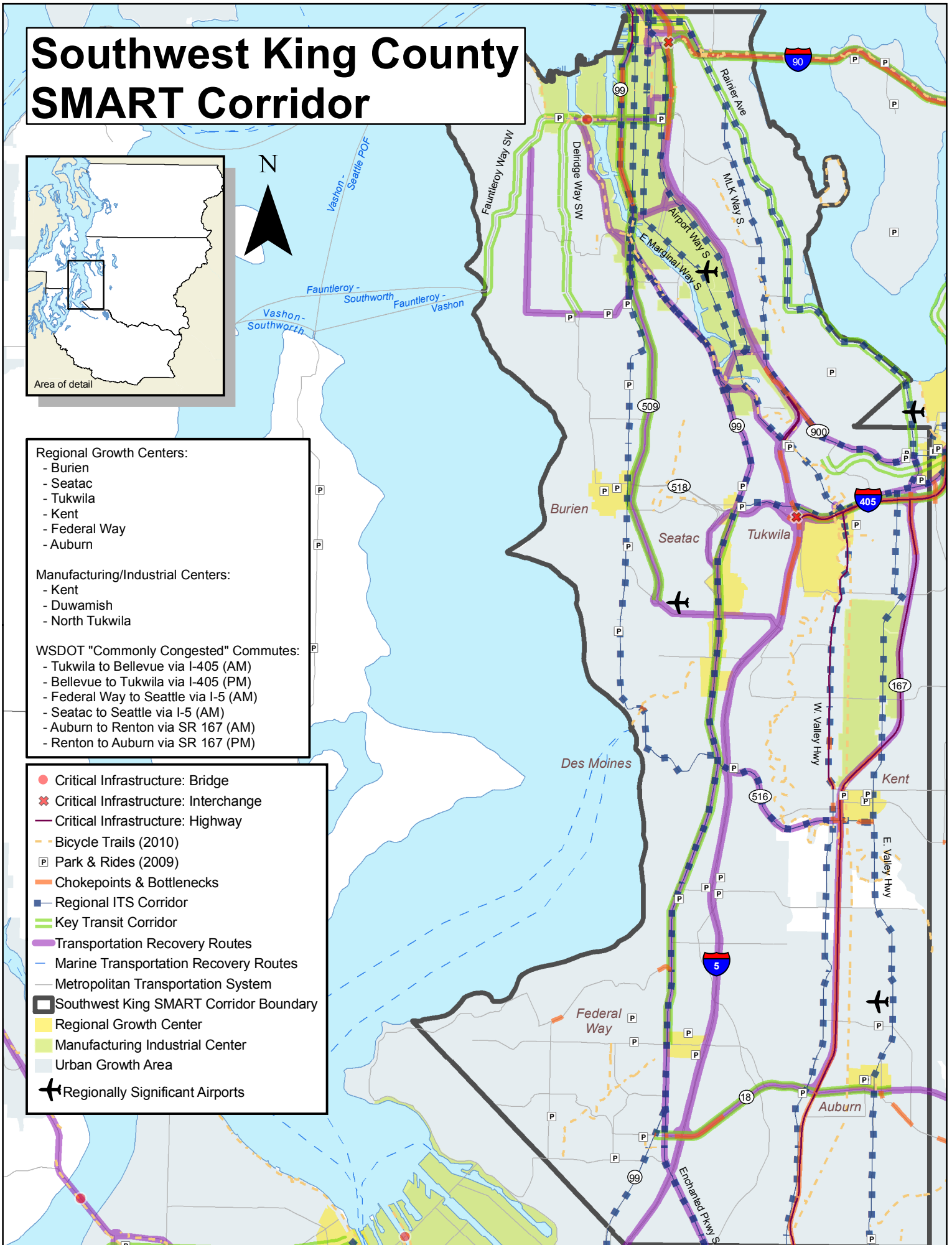
Manufacturing/Industrial Centers:

- Kent
- Duwamish
- North Tukwila

WSDOT "Commonly Congested" Commutes:

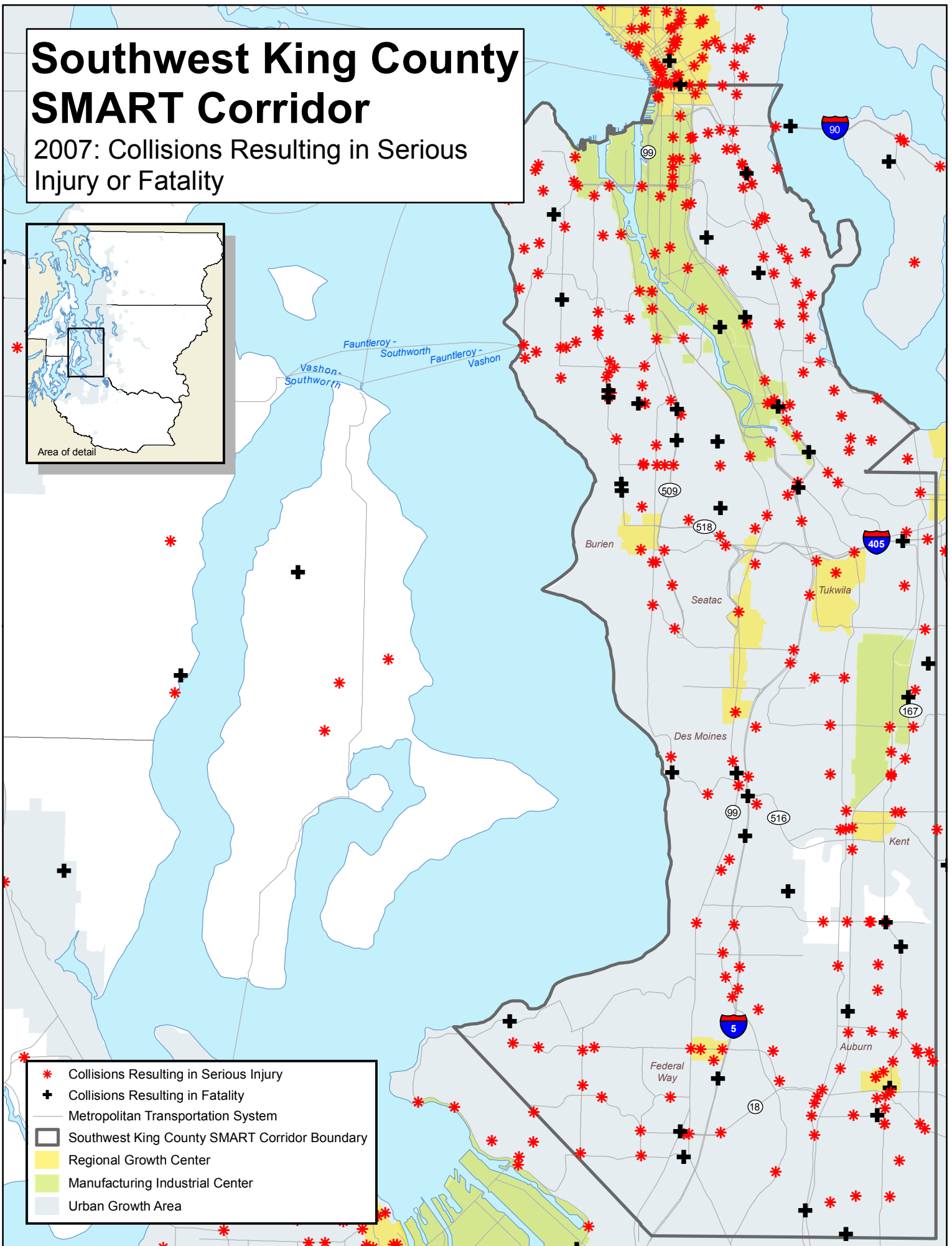
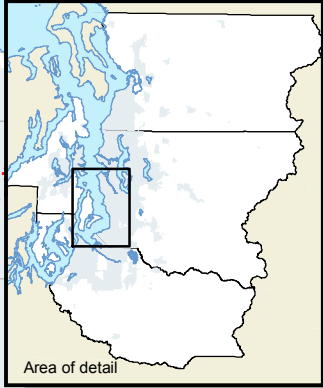
- Tukwila to Bellevue via I-405 (AM)
- Bellevue to Tukwila via I-405 (PM)
- Federal Way to Seattle via I-5 (AM)
- Seatac to Seattle via I-5 (AM)
- Auburn to Renton via SR 167 (AM)
- Renton to Auburn via SR 167 (PM)

- Critical Infrastructure: Bridge
- ✘ Critical Infrastructure: Interchange
- Critical Infrastructure: Highway
- - - Bicycle Trails (2010)
- P Park & Rides (2009)
- Chokepoints & Bottlenecks
- Regional ITS Corridor
- Key Transit Corridor
- Transportation Recovery Routes
- Marine Transportation Recovery Routes
- Metropolitan Transportation System
- ▭ Southwest King SMART Corridor Boundary
- Regional Growth Center
- Manufacturing Industrial Center
- Urban Growth Area
- ✈ Regionally Significant Airports



Southwest King County SMART Corridor

2007: Collisions Resulting in Serious Injury or Fatality

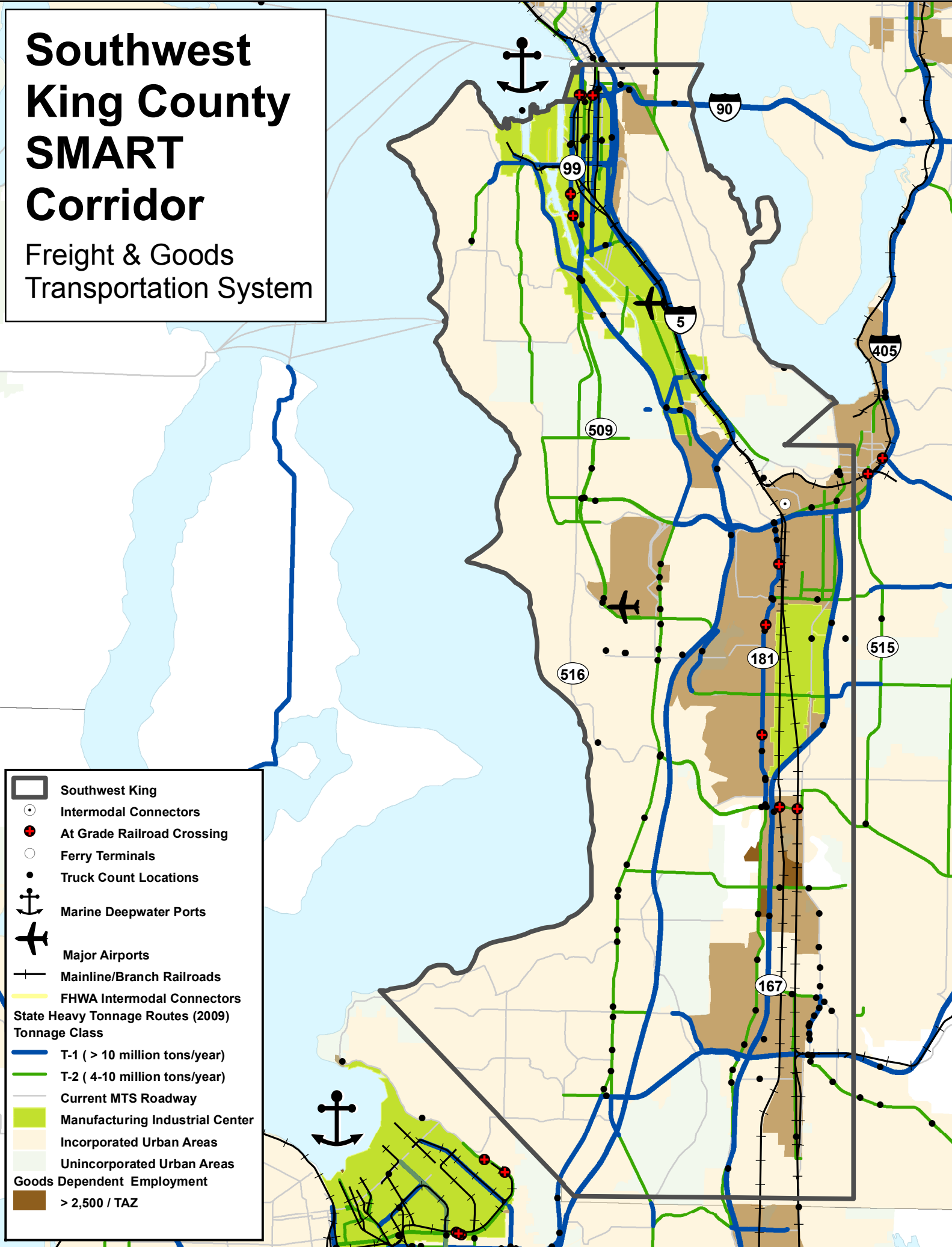


- * Collisions Resulting in Serious Injury
- + Collisions Resulting in Fatality
- Metropolitan Transportation System
- ▭ Southwest King County SMART Corridor Boundary
- ▭ Regional Growth Center
- ▭ Manufacturing Industrial Center
- ▭ Urban Growth Area

Note: Collision data provided to PSRC by WSDOT Transportation Data Office

Southwest King County SMART Corridor

Freight & Goods Transportation System



- Southwest King
- Intermodal Connectors
- At Grade Railroad Crossing
- Ferry Terminals
- Truck Count Locations
- Marine Deepwater Ports
- Major Airports
- Mainline/Branch Railroads
- FHWA Intermodal Connectors
- State Heavy Tonnage Routes (2009) Tonnage Class**
- T-1 (> 10 million tons/year)
- T-2 (4-10 million tons/year)
- Current MTS Roadway
- Manufacturing Industrial Center
- Incorporated Urban Areas
- Unincorporated Urban Areas
- Goods Dependent Employment**
- > 2,500 / TAZ