

FINAL DRAFT

Milestone Report B – 12/18/07

**Existing Conditions:
Evaluation of Existing Bicycle and
Pedestrian Facilities & Data**

**Prepared as Background for the
Washington State Bicycle Facilities and Pedestrian
Walkways Plan**

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CHAPTER B.1 INTRODUCTION

I. OVERVIEW

This report examines the current conditions for bicycling and walking in Washington. It summarizes and analyzes existing conditions and data. This report, the information collected through the public opinion survey, and comments made during the public hearings will form the foundation for recommendations in subsequent milestone reports and the draft plan. As the Plan is developed, additional data sources may be discovered and new analysis may be added to this Milestone Report B.

Requirements of the State's Bicycle Facilities and Pedestrian Walkways Plan

Consistent with Washington State Law (RCW 47.06.100) and federal guidance, the scope of this project includes:

#1: Establishing a statewide strategy for addressing bicycle and pedestrian transportation.

For bicycle and pedestrian modes to be viable choices for citizens, they should be included in all aspects of the transportation system—planning, project development, funding, implementation, and maintenance. This report examines the level of this inclusion.

#2: Integrating bicycle and pedestrian travel with other transportation modes.

Bicycling and walking are ways people access buses, trains and ferries. For many people, non-motorized modes are the only way to access transit. Bus stops, park-and-ride lots, and inter-modal stations will be analyzed for bicycle and pedestrian accessibility, including bicycle parking.

#3: Coordinating WSDOT and local municipalities, regional planning entities and transit agencies.

To improve safety and mobility, planners and engineers at all levels of government should improve coordination. State, regional and local policies and operations are analyzed for coordination opportunities.

#4: Determining the role of bicycle and pedestrian transportation in reducing automobile congestion.

Reducing congestion and resulting green house gas emissions requires giving people viable transportation choices. Sidewalks and accessible pedestrian routes get people from home to their destinations and to transit stations and stops. Trails and bicycle lanes allow people to ride a bike instead of drive for many trips, and provide another way to access transit. Bike and pedestrian connections are analyzed for gaps and opportunities.

#5: Assessing statewide bicycle and pedestrian needs (needs related to state, city and county routes).

How much will it take to significantly improve the bike and pedestrian travel in Washington? Analyzing existing conditions will lead to an estimate of cost to build high-priority bike and pedestrian infrastructure.

II. DATA SOURCES

Tables B.1-1 and B.1-2 present an overview of available existing base data relating to bicycle and pedestrian facilities, safety, and mobility in Washington State. The information presented here is currently available, through the State of Washington or Regional Transportation Planning Organizations. Table B.1-1 lists the information available through Washington State. Table B.1-2 lists information that is currently available from regional and local sources.

Table B.1-1 Washington State Data

Data List	
	Bike/Pedestrian Facilities
1	Sidewalks
	Paths/Trails
	Bike lanes
	Trail Grants
	Bike stations
	Crash
2	Bicycle and Pedestrian Crash Data (5+ years)
	Highway Information
3	Travel Lanes
	Shoulder widths
	Sidewalks
	Crosswalks (marked and unmarked)
	Posted speed
	Functional class
	Ferry Terminals
	Scenic Byways
	Design Speed Curves
	Parking On-Street and Restrictions
	Roadside Features
	Planned Road Projects
4	Transportation Partnerships Act
	Nickel Projects
	Paver Projects
	Traffic Counts
5	ADT
	Truck
	Attractors/Generators
6	National Parks
	State Parks
	Significant Local Parks
	Schools
	Colleges and Universities
	Transit Facilities
	Concentrations of households (census)
	Concentrated employment centers
	Popular places / special event facilities
	Commercial districts - CBDs
	Park and Rides
	National Forest
	Land Use - Boundaries
7	City and County Boundaries
	RTPO/MPO Boundaries
	WSDOT Regions
	Activity Centers
	Housing Density
	Commerical Density
	Transit Routes
8	Vancouver
	Spokane
	Seattle
	Military

Table B.1-2 Data from Regional and Other Sources

Agency/Organization	Information	Source
Cascade Bicycle Club	Central Puget Sound Region bicycle route needs	<i>Left by the Side of the Road</i>
City of Seattle	Local bicycle planning for state routes	Seattle Bicycle Master Plan draft 2007
King County	County bicycle planning for state routes	Project TIP list
Thurston County	County bicycle planning for state routes	Staff input at public meeting
Bicycle Alliance of Washington	Regionally significant bicycle routes	Website
Bicycle Alliance of Washington	Trails network and trail planning	Website
Coordination between State and Local bicycle and pedestrian plans	Various: Feet First; Bicycle Alliance; Cascade Bicycle Alliance, WSDOT	Steering Committee Discussion and public Meetings
WA State Recreation and Conservation Office	Recreational Trails Program Grants	Website
Transportation Improvement Board	Small City Sidewalk Program	Website
WA Traffic Safety Commission	Safety Project funding	Website
WA State Legislature	Bicycle and Pedestrian Legislation	Website

Much of the data examined in this report is related to Washington State Routes. This focus reflects the fact that state routes carry a significant number of bicyclists and provide linkages to many local bicycle and pedestrian facilities. In many places, state routes are the only links for bicycling or walking between municipalities or other destinations. During the public hearings, we also heard that some State Routes, for example I-5 through Seattle, can serve as barriers to bicycling and walking at the local level, as discussed in Chapter B.4.

While the data examined in this report is fairly extensive, it does not present a complete picture of the status of bicycle and pedestrian facilities or activities. As discussed in various places in this report, there are still more data that would be useful or there are needs to make existing data more complete.

The data examined in this report provides insights into both the condition of Washington State's bicycle and pedestrian facilities as well as how well these facilities are used or serve the needs of users. This information can inform decision makers as to:

- What additional facilities may be needed,
- How existing facilities can be improved to better serve user needs,
- Where additional facilities may be needed,
- How safety needs can be improved,
- What types of additional programs may be beneficial to help meet overall state transportation goals, and
- What policies would be most beneficial to facilitate more bicycling and walking.

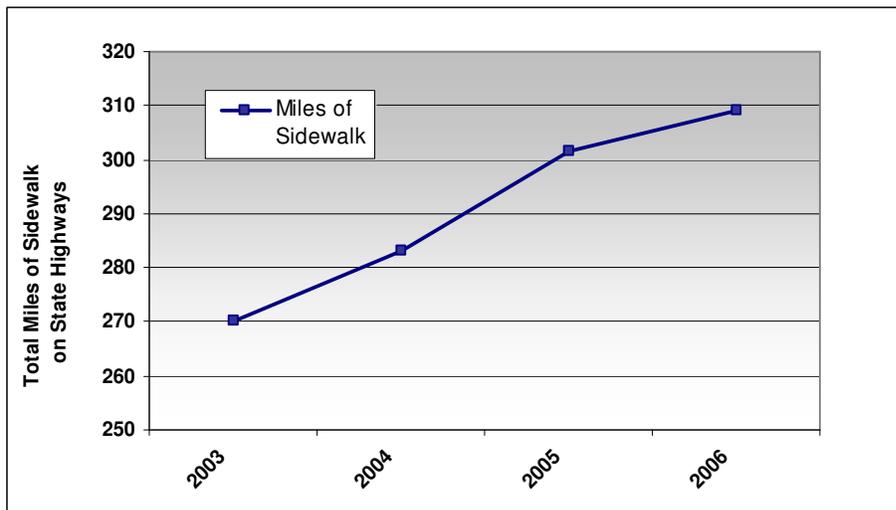
CHAPTER B.2 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

I. EXISTING PEDESTRIAN WALKWAYS

Existing Sidewalks

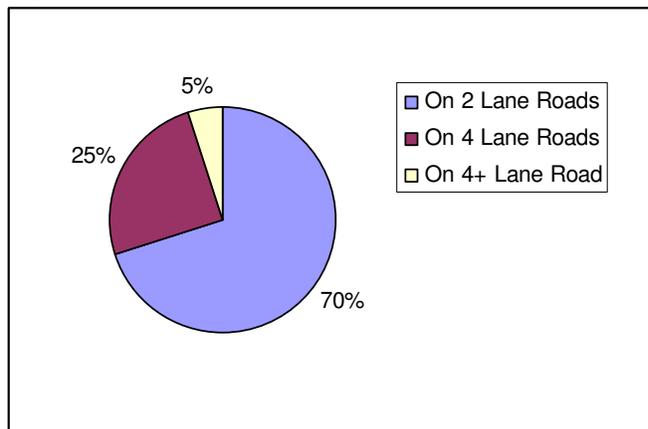
A statewide inventory of sidewalks on city streets, county roads and state highways is currently not available. However, WSDOT has conducted initial sidewalk inventories for all state routes in Washington, including state highways within cities. Approximately 5 percent of state highways or 310 miles of 7,000 miles of state highways have sidewalks adjacent to them. These sidewalks on state highways are primarily located in urban areas. Approximately 9 percent of the ramps on sidewalks along state routes meet Americans with Disabilities Act (ADA) requirements and 2 percent have truncated domes for the sight impaired. Except for sidewalks on bridges, most sidewalks along state routes meet or exceed ADA standards. About 70 percent of these sidewalks are adjacent to two lane roadways, 25 percent are adjacent to roads with four through lanes, and 5 percent are adjacent to roads with more than four through lanes. WSDOT has been tracking sidewalk construction on state routes since 2003, as **Figure B.2-1** shows and **Figure B.2-2** shows the location of these sidewalks in relation to number of lanes.

Figure B.2-1 Miles of Sidewalk on State Highways



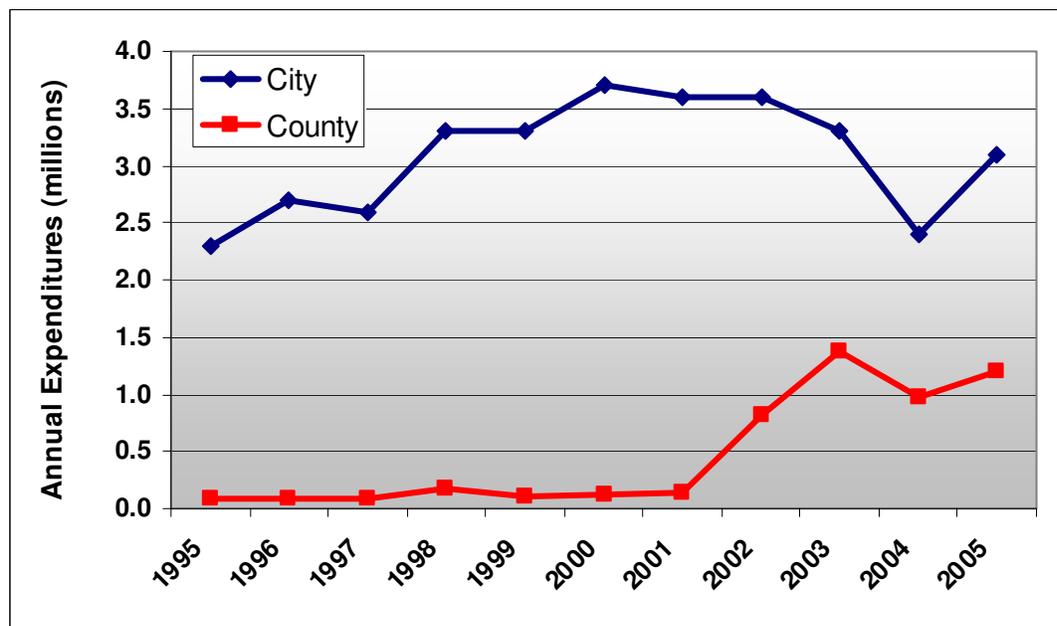
Source: WSDOT

Note: Bicycle miles are measured by the centerline of the road.
Total miles for both sides of roadway.

Figure B.2-2 Sidewalk Locations in Relation to Number of Lanes on State Routes

Sidewalk Maintenance

Cities are constructing a majority of new sidewalks in Washington. Washington State does not maintain either newly constructed or existing sidewalks on state highways, unless they are located on some bridges or structures. Many of the sidewalks on state highways are located in cities or population centers in rural areas. **Figure B.2-3** tracks sidewalk maintenance expenditures by Washington State cities and counties as reported in actual capital outlay.

Figure B.2-3 Annual Maintenance Expenditure for Sidewalks

Source: Federal Highway Authority (FHWA)

Crosswalks

The State considers a legal crosswalk to exist at each location where roads intersect (RCW 46.04.160). A small percentage of these crosswalks are identified with roadway markings, signals, or signs, but the majority of these crosswalks are not marked, signed or signalized in any way. On state highways, approximately 10 percent of all legal crosswalk locations are marked and 4 percent are signalized. A sampling of cities in Washington indicates that cities also have a similar percentage of marked legal crossings, but more signalized locations. On state highways inside cities, marked crossings are separated by an average of approximately 8 miles.

Shared Use Paths or Trails

In Washington, there are currently over 1,000 miles of shared use paths or trails that are accessible. Washington's trail network serves a range of functions from commuting to recreational cycling, from people walking to pick up groceries to dog walkers. They are very strategically located.

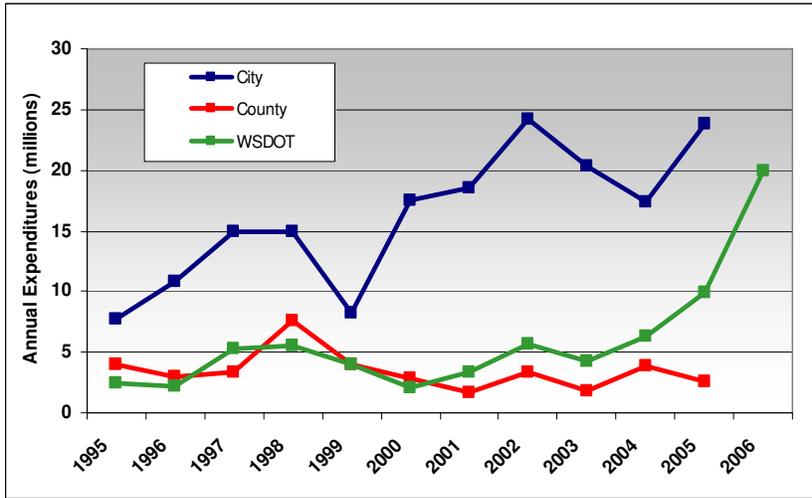
Figure B.2-4 General Location of Washington's Most Popular Trails



Several important trails occupy abandoned rail lines. Each took a strong contingent to develop. **Figure B.2-4** shows the general location of some of Washington State's most popular trails.

Figure B.2-5 tracks expenditures for pedestrian facilities in Washington State over the past 11 years. In general, the data shows an overall increase in expenditures for these facilities, with the WSDOT budget for trails and sidewalks showing the most increase.

Figure B.2-5 Expenditure for Sidewalks and Trails in Washington State



Source: FHWA and WSDOT

II. EXISTING BICYCLE FACILITIES

Shoulders

The width of shoulders is one of the factors in understanding the ability of the roadway to comfortably accommodate bicyclists. **Map B.2-1** shows the distribution of shoulders on state routes by width. Approximately 3 percent of shoulders on state highways provide five feet or more of space that can be used by cyclists. In the Central Puget Sound Region, a recent study conducted by the Cascade Bicycle Club found that 27 percent or over 400 miles of the regional bicycle network including city streets, state highways and county roads had less than desirable shoulder width for bicycling. **Table B.2-1** provides an example of what can be considered minimally acceptable geometry in a pass-fail adequacy rating of existing streets and roads for bicycling. Applying a portion of these criteria to existing state routes throughout the state, based on the data currently available, shows that a relatively large number of state routes do provide acceptable conditions, as **Map B.2-1** shows.

Table B.2-1 Acceptable Roadway Conditions for Bicycling

ROADWAY TYPE	ACCEPTABLE BIKING CONDITIONS
Rural Two-Lane Road with Speed Limits Less than 50 mph	
	10 foot lane + 5 foot striped, paved shoulder
	11 foot lane + 4 foot stiped, paved shoulder
	12 foot lane + 3 foot striped shoulder
Rural Road with Speed Limit Greater than 50 mph	
	Paved shoulder greater than or at least 4 feet
Curbed Three-Lane Street with No Parking	
	Curb lane greater than or at least 13 feet
Curbed Multi-Lane Streets with No Parking (at least 4 lanes)	
	Curb lane greater than or at least 14 feet
Curbed Streets with Parking	
	Low traffic volume and low parking turnover with at least 23 feet of travel lane and parking area
	High traffic volume and high parking turnover with at least 25 feet of travel lane and parking area

NOTES: • These are evaluation criteria and may differ from facility design standards. • Minimum required widths may need to be increased by at least one foot when one or more of the following conditions is present: high traffic volume, high speed limit (≥ 50 mph), high percentage of trucks or transit buses in traffic stream, steep grades or extended grades, impaired sight distance (winding alignment, sharp curves, crest vertical curves, other roadside sight-line obstructions such as vegetation, retaining walls, etc.), frequent driveways or intersections. • Conditions may change at intersections where turning lanes are added. • Route segments may be labeled “pass” (i.e., conditions are acceptable for bicyclists, and the segment would need only regular maintenance) or “fail” (i.e., conditions are unacceptable for bicyclists on at least one level, but bicyclists may still use the facility, even with knowledge of a “failed” condition).

Source: *Left by the Side of the Road* Cascade Bicycle Club

Bicycle Lanes

Bicycle lanes are designated lanes striped, marked, sometimes separated by barriers for exclusive use of bicyclists and the minimum width is four feet wide for roadways with no curb and gutter. If parking is permitted bicycle lanes are at least five feet wide. There are approximately 70 miles of bicycle lanes on state routes, **Map B.2-2** indicates their general location and shows that bicycle lanes only exist on state routes in a few municipalities in the Puget Sound area, as well as

Cheney, Vancouver and Camas. A sampling of cities in Washington indicates that more bicycle lanes are striped on local streets and roads, primarily arterials. .

Other Facilities

While not widespread in Washington State, several other types of roadway facilities provide accommodations for bicycles, including:

- Wide outside lanes used by both bicyclist and motorist,
- Roadways with no center lane,
- Dashed bicycle lanes,
- Contra-flow lanes, placing balanced, two way bicycle lanes on one way roadways,
- Raised bicycle lanes,
- *Sharrows* on general purpose motor vehicle lanes shared with bicycle lanes (typically used on lower volume, urban streets), and
- Sidepaths, shared use paths placed adjacent to roadways.



Sharrow Bike Marking

There is no data currently available to verify the effectiveness of these facilities in Washington State, however, studies from Portland and San Francisco show that use of sharrows can help reduce the number of bicycle crashes and make roadways safer for motorists as well.

Bicycles on Transit

Combining transit service and a bike provides additional flexibility for bicyclists. Transit can move cyclists through workzones during road construction projects, expand bicycling opportunities for more people, and promote transit use.

In areas where bridges have limited bicycle or pedestrian access, loading bikes on buses, trains, or vans can connect cyclists to other areas of their community. Where bicycle parking is available, some people use two bikes and the bus to make their trips. They keep one bike stored at each end of their bus route.



Many transit agencies in Washington provide bicycle storage on buses and other accommodations for cyclists, including:

- Sound Transit - Serving portions of King, Pierce and Snohomish Counties
- King County Metro - Serving King County
- Pierce Transit - Serving Pierce County
- Intercity Transit - Serving Thurston County
- Spokane Transit - Serving Spokane County
- Link Transit - Serving Chelan and Douglas Counties
- Everett - Serving the City of Everett
- Kitsap Transit - Serving Kitsap County
- Clallam - Serving Clallam County
- C-Tran - Serving Clark County
- Community Transit - Serving Snohomish County
- Washington State Ferries
- Amtrak

Bicycle Compatibility Index

Washington State has prepared a Bicycle Compatibility Index (BCI) for state routes. This is an index that rates the relative acceptability of a roadway for comfortable bicycling. Factors such as the average amount of daily traffic (ADT) shoulder width, speed, freight volume, and pavement conditions are used to create the index. Even though ADT volumes may be high on many of the state routes, they typically rate as extremely high or very high on the BCI, primarily due to the wide shoulders that are also typically found on most state routes.

The BCI currently has limits. It does not necessarily provide a good representation of the acceptability of bicycling conditions for younger bicyclists, or less experienced bicyclists. It also provides little information on the connectivity with local bicycle facilities.

Bicycle Events in Washington

WSDOT regularly makes state routes available to bicycle events throughout the year, as a way of making more individuals aware of the possibilities of bicycling on state routes. **Table B.2-2** lists the different events currently accommodated on state routes. This list helps to understand which state routes, or portions of those routes, tend to be more accessible for bicyclists.

Table B.2-2 Bicycle Events on State Routes

"Jill's Ride"	Recreation/Tour	TBD	200
16th Annual Tour des Lacs Bicycle Tour	Recreation/Tour	278	100
8 Lakes Leg Aches Ride	Recreation/Tour	904	350
Annual Tour des Lacs Bicycle Tour	Recreation/Tour	278	40
Apple Capital Triathlon	Race	97	150
Apple Century 100 Bike Ride	Recreation/Tour	97, 97a	1000
Baddlands 2006 WA ST Time Trial	Race	904	120
Beaver Lake Triathlon	Triathlon - bike leg	202	600
Bellingham Traverse	Race	11, 5	
Cannonball	Recreation/Tour	90	15
Chelan Century Challenge Bike Ride	Recreation/Tour	97, 97a, 150	200
Chuckanut Century Ride	Charitable recreation ride	11, 548, 5	250
Cooper Jones Memorial Frozen Flatlands Road Race	Race	90, 902	180
Cooper Jones Memorial Washington State Time Trial Championships	Race	904	150
Courage Classic	Recreation/Tour	202, 90, 2, 97	600
Cycle the Columbia Gorge	Recreation/Tour	14, 197, 142	100
Escape from the Rock	Triathlon - bike leg	90	500
Fairchild AFB Mini Triathlon	Triathlon - bike leg	902	100
Fiasco in Pasco Duathlon	Triathlon - bike leg	182	
Flying Wheel Summer Century	Recreation/Tour	202, 203, I-90, 522	1100
Fort to Fort	Recreation/Tour	19, 20, 116	50
Get your Guts in Gear	Charitable recreation ride	5, 9, 11, 20, 92, 96, 99, 104, 524, 525, 527, 530, 531, 536, 538	
Group Health MS 150	Recreation/Tour	20	1000
High Pass Challenge	Recreation/Tour	410	
High Pass Challenge	Recreation/Tour	131	
I Made the Grade Ride	Recreation/Tour	12, 128	300
Inland Empire Century Ride	Race	221, 224, 225, 397	
Iron Eagle Triathlon-Duathlon	Triathlon - bike leg	904	75
Jack Frost Time Trials	Race	501	350
Kitsap Color Classic	Recreation/Tour	3, 305,104	1000
Lacamas Lake 10 Miler	Recreation/Tour	500	800
Lake Chelan - My First / Next Triathlons	Race	97a, 971	800
McClinchy Mile	Recreation/Tour	9, 530, 532, 5	300
Medical Lake Mini Triathlon	Triathlon - bike leg	902	200
Methow Valley Tour	Race	20	300
Moses Lake Family Triathlon	Race	90	
Mountains to Sound	Triathlon - bike leg	90, 202, 203	150
Mt. Baker Hill Climb	Race	542	500
Mutual of Enumclaw Stage Race	Race	164, 410	500
National MS Society Bike Tour	Charitable recreation ride	278, 27	150
Native Planet Bicycle Tour	Charitable recreation ride	20	
NW Collegiate Championship	Race	27, 272	140
Ocean Shores Tour	Recreation/Tour	6, 105	
Olympic Cycling Classic	Recreation/Tour	101, 112, 117	200
Palouse Habitat for Humanity	Charitable recreation ride	27, 272	150
Quinault Rain Forest Ride	Recreation/Tour	101	200
RamRod	Recreation/Tour	410	900
Rapsody	Recreation/Tour	101	1000
Red Spoke Bicycle Tour	Recreation/Tour	2, 203, 155, 174	
Rhody Tour	Recreation/Tour	104, 19, 20	150
Ride for Us	Recreation/Tour		500
Ride for Youth	Charitable recreation ride	9, 11, 542	
Ridge to River	Race	2, 97, 285	400
Rock & Ride in George	Recreation/Tour		150
Rosalia-Rock Lake Classic	Recreation/Tour	23, 195	150
RSVP - Seattle to Vancouver	Recreation/Tour	2, 5, 405, 9, 11, 92	1200
Seattle Danskin Triathlon	Triathlon - bike leg	90	17000
Skagit Spring Classic	Charitable recreation ride	5, 9, 11	250
Skagit Valley Tulip Festival	Charitable recreation ride	11, 20, 536	500
Ski to Sea	Triathlon - bike leg	542, 547	400
Spokane Troika Triathlon Association	Triathlon - bike leg	902	150
STP: Seattle to Portland	Recreation/Tour	513, 900, 167, 405, 181, 18	9000
The Dash Race for the Kids	Charitable recreation ride	221, 22	
Tiger Triathlon	Triathlon - bike leg	20	120
Titanium Man Triathlon	Triathlon - bike leg	182	
Tour De Blast	Recreation/Tour	504	500
Tour de Cure (American Diabetes Assoc)	Charitable recreation ride	202, 203, I-90, 522	500
Tour de Lentil Metric Bicycle Ride	Race	194, 195, 272, 27	50
Tour de Whatcom	Charitable recreation ride	9, 11, 539, 542, 544, 547, 548	100
Tour de Whidbey	Charitable recreation ride	20, 525	300
Tour of the Columbia Basin	Recreation/Tour	28, 17, 2, 97	150
Tour of Walla Walla Bicycle Race	Race	12, 124	500
Trek Tri-Island	Recreation/Tour	20	
Trifreak	Recreation/Tour	109, 115	20
Uncle Sam 150 Bike Tour	Recreation/Tour		
Vancouver Bicycle Club Ride	Recreation/Tour	500, 503	1200
Wenatchee Valley DU (Duathlon)Velo	Race	2, 97, 285	250
Wheatland Wheelers Ann Weatherill Memorial Ride	Recreation/Tour	125	150
Work It Out Triathlon	Triathlon - bike leg	169	80
Your Canyon for a Day Bike Tour	Recreation/Tour	821	300

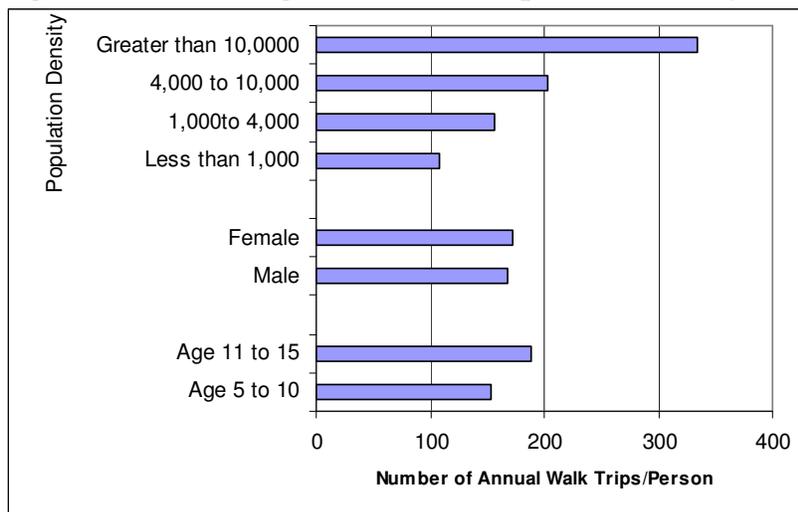
Chapter B.3 DATA ANALYSIS

I. ANALYZING THE PEDESTRIAN DATA

Where and Why People Walk

Accommodations for pedestrian circulation are generally greater in urban areas throughout Washington State. This is consistent with demand. **Figure B.3-1** shows the National Household Travel Survey (NHTS) findings, completed in 2001, that greater walking is related to population density.

Figure B.3-1 Walking as Related to Population Density and Other Characteristics



Source: NHTS 2001

Consistent with national data, **Table B.3-1** shows where people are more likely to walk or bicycle in the Puget Sound Region.

Table B.3-1 Walking and Bicycling in the Puget Sound Area Relative to Regional Centers

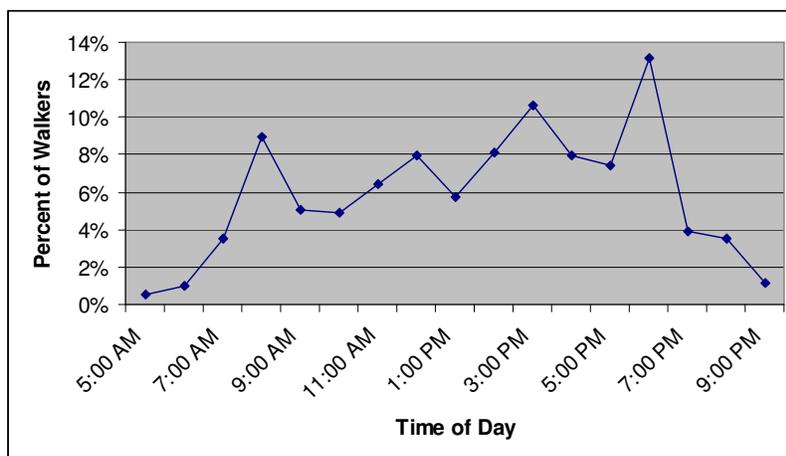
Household Location: Work Location:	INSIDE	OUTSIDE	INSIDE	OUTSIDE
	INSIDE	INSIDE	OUTSIDE	OUTSIDE
Drive Alone	38.3%	70.8%	81.1%	84.9%
Carpool	7.9%	7.9%	7.4%	9.3%
BUS	25.2%	16.1%	8.8%	2.0%
BICYCLE	3.0%	2.1%	1.9%	1.4%
WALK	25.5%	2.4%	0.4%	1.8%
OTHER	0.0%	0.7%	0.0%	0.6%
TOTAL	100%	100%	100%	100%

Source: Puget Sound Regional Council

The locations of the regional centers in the Puget Sound area are shown in **Map B.3-1**. Regional centers are considered to be areas that meet density goals established by local agencies and are certified by Regional Transportation Planning Organizations.

The time of day and reasons people walk have been captured and summarized by FHWA from the National Household Transportation Survey. **Figure B.3-2** shows a distribution of walking trips over time for residents of Washington State, starting at 5 AM in the morning and ending at 11:30 PM.

Figure B.3-2 Washington State Walking Trips by Time of Day



Source: NHTS 2001

Table B.3-2 presents reasons people in Washington State reported for walking. The reasons Washingtonians give for walking are very similar to the reasons they give for driving. Walking trips are generally considered to be focused on originating points and destinations. Most residential areas are considered to be both originating locations and destinations for return trips.

Table B.3-2 Washington State Reasons for Walking

Walk Trip Types	Percent of Trips
Work	5%
Visit Family/Friends	11%
Shopping/Dining	21%
Social/Recreational	16%
Family/Personal	6%
Other	4%
School	6%
Home	31%
Total Walking Trips	100%

Source: NHTS 2001

As **Table B.3-2** indicates, numerous other types of facilities can serve as the destination points for these walking trips, including:

- Schools,
- Hospitals,
- Local attractions,
- Parks,
- Schools,
- Trails, and
- Recreation areas.

Map B.3-2 shows the location of a variety of different destination points that are located within ¼ mile of state routes. These locations can reasonably be expected to serve as common destinations for many different walking trips or walking and transit trips.

Walking for Recreation

The National Household Transportation Survey identifies 16% of all pedestrian trips as recreational trips. Recreation is important to Washington State for the economy and the health of Washington citizens. Recent recreational studies conducted by Washington State Recreation and Conservation Office finds that the most common form of recreation that Washington residents participated in during 2006 was walking (without a pet). Approximately 67 percent of respondents reported walking. The most prevalent settings for walking without a pet were sidewalks at 57 percent, park or trail settings at 48 percent, and roads or streets at 42 percent. Over 30 percent of the respondents reporting hiking as another important form or walking for recreation, with 12 percent reporting hiking on urban trails.

Pedestrian Crash Data

Washington's ranking among other states for pedestrian and bicycle safety performance fell slightly in 2005 from previous years, as measured annually by NHTSA (fatalities by population). For pedestrian safety, Washington placed 15th in 2006 with a crash rate of 1.03 pedestrian involved crashes per 100,000 population.

Although there is greater attention to the needs of pedestrians in urban areas, crashes involving pedestrians are much more frequent and severe in urban areas than in either rural or suburbanizing areas. This is in contrast to motor vehicle involved crashes, which occur primarily in rural areas. **Table B.3-3** compares pedestrian crash information with other types of crashes, as gathered by local law enforcement and Washington State Patrol and reported in the Fatality Accident Reporting System (FARS).

**Table B.3-3 1999-2006 Washington Traffic Fatalities
By Person Type and Urban-Rural Classification**

PERSON TYPE	Rural	Urban	Total	Rural/Urban (%)
Driver	2,051	1,049	3,100	66.2 / 33.8
Passenger	857	399	1,256	68.2 / 31.8
Pedestrian	135	412	547	24.7 / 75.3
Bicyclist	28	49	77	36.4 / 63.6
TOTAL	3,071	1,909	4,980	61.6 / 38.4

Source: FARS

Table B.3-4 shows the general breakdown by the type of injury of recorded pedestrian crashes between 1999 and 2006. As the table shows, approximately 4 percent of the total number of crashes resulted in fatal injuries

Table B.3-4 Total Pedestrian Crashes by Type of Injury from 1999 to 2006

Most Severe Injury Type	Number of Pedestrian Crashes	Percentage of all Crashes
Dead at Scene	239	1.9%
Dead on Arrival	23	0.2%
Died in Hospital	260	2.1%
Disabling Injury	1960	15.7%
Evident Injury	5336	42.7%
No Injury	244	2.0%
Possible Injury	4402	35.2%
Unknown	25	0.2%
Total Number of Pedestrian Crashes	12489	100.0%

Source: WSDOT

Between 1999 and 2006, over 70 percent of these pedestrian fatalities occurred in urban areas, approximately 38 percent on state highways or federal highways under state control. Close to 66 percent of crashes involving pedestrians occurred on city streets, and 74 percent of these crashes occurred on state routes within larger cities. This is consistent with national trends.

Many of these known risk locations on state highways inside larger cities may persist, at least into the near future, as state policy makers, WSDOT, and local agencies work toward an agreement on jurisdiction control and financial responsibility. RCW 47.24.020, defines jurisdiction and control on state highways inside cities exceeding 25,000 in population. It has been interpreted by State Attorneys to assign safety improvements, including pedestrian safety, to the responsibility of the respective city. Design authority for these locations rests with WSDOT.¹

Additionally, pedestrians make up a larger portion of all traffic related fatalities within urban areas. Pedestrian traffic fatalities make up approximately 22 percent of all fatalities occurring in urban areas vs. 5 percent of all traffic fatalities occurring in rural areas.

As shown in **Table B.3-5** of the fatal pedestrian involved traffic crashes that occurred at intersections between 1999 and 2006, half occurred at locations where no crosswalk was available. Only about 15 percent of all pedestrian collision locations occurred in marked crosswalks.

Table B.3-5 Pedestrian Crash Location at Intersections

Pedestrian Crash Location	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
Crossing - in crosswalk	12	15	10	13	10	10	9	13	14.7%
Crossing - not in crosswalk	10	13	11	16	23	16	16	26	21.7%
Crossing – marked crosswalk not available	31	29	44	35	35	29	42	23	50.8%
Shoulder	4	6	7	5	5	3	6	10	8.4%
Other - Off Roadway	3	5	3	1	4	2	1	0	3.5%
Unknown	0	0	0	0	0	0	0	0	1.0%
									100.0%

Source: FARS

Map B.3-3 graphically shows the overall location of pedestrian crashes in Washington State on state routes. In addition to the concentration of crashes in urban areas, the overall data of crashes also shows that there are some rural or suburbanizing areas where concentrations of pedestrian crashes on state routes initially appear to be disproportionate for the size of the community, including:

- State Route 26 in Hooper,
- State Route 26 east of the its western terminus at State Route 243, and
- State Route 109 in Hoquiam.

¹ WSDOT, Gray Notebook, December 2006, P. 62.

These locations warrant further study and may yield some additional information about pedestrian risk in rural and suburbanizing areas. Of potential concern is the relationship of pedestrian crashes to crossing at busy intersections, the potential concentrations of pedestrians at destination points (as shown on **Map B.3-2**), or high vehicular volumes or speeds close to pedestrian activity areas.

The relationship between vehicle travel speeds and resulting severity of pedestrian injury indicates that higher vehicle speeds are associated with both a greater likelihood of pedestrian crash occurrence and more serious resulting pedestrian injury. There is an estimated 95 percent survival rate for pedestrians struck by a vehicles traveling at 20 miles per hour or less. This compares with fatality rates of 40 to 80 percent when pedestrians are struck by motor vehicles as speeds of 30, 40, and 50 miles per hour or more, respectively. Reductions in vehicle travel speeds on urban arterials may be a cost effective way to reduce traffic related fatalities for both pedestrians and bicyclists. Reductions in speed can be achieved through road redesigns, including raised medians, chicanes, roundabouts or traffic circles. Speed reduction to 25-30 mph in some locations has been shown to increase motor vehicle capacity and reduce congestion. Comprehensive community-based speed reduction programs, which combine public information and education, enforcement, and roadway engineering, have the best outcomes².

As shown in **Table B.3-6**, State Highways, typically the highest speed roadways in urban areas, have a disproportionately high percentage of pedestrian fatalities at 39 percent while they make up only about 7 percent of road network.

Table B.3-6 1995-2006 Washington Pedestrian Fatalities by Route Sign and Speed Limit

ROAD CLASS	Miles of Roadway	POSTED SPEED LIMIT (mph)												Unknown	Percentage
		15	20	25	30	35	40	45	50	55	60	65	70		
State Highways and Interstates	7,000	0	1	8	5	43	22	35	44	48	89	5	9	0	39%
County Road	57,000	0	0	13	7	68	27	8	31	5	0	0	0	0	20%
City Street	32,000	3	4	81	119*	98*	15	2	3	1	0	0	0	1	41%
Total	96,000	3	5	102	132	209	64	45	78	54	89	5	9	1	100%

Source: FARS

*Note: A majority of City streets are posted at 30-35 MPH (AWC).

Table B.3-7 shows the distribution of fatal crashes by age group. This table shows that crashes are generally distributed evenly over most age groups, with those between the ages of 41 and 50 years of age experiencing the most crashes.

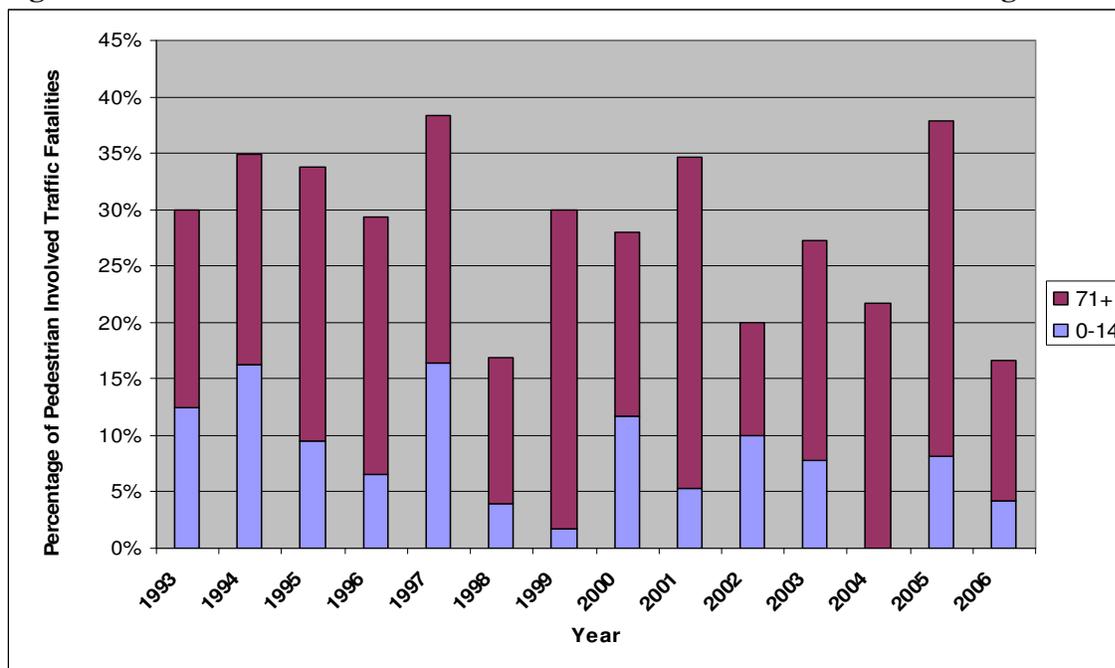
² Campbell, B., C. Zegeer, H. Huang, and M. Cynecki, *Pedestrian Safety Research in the U.S.*, Federal Highway Administration, Washington, DC, October 1999.

Table B.3-7 1999-2006 Fatal Pedestrian Involved Traffic Crashes by Age Group

AGE GROUP	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006*	
0-9		6	2	5	3		4	1	2%
10-14	1	2	2	2	3		2	2	1%
15-20	5	7	7	7	3	2	4	5	4%
21-30	9	8	6	6	10	10	3	8	6%
31-40	5	7	5	9	10	13	7	7	6%
41-50	11	17	13	17	23	4	14	16	11%
51-60	6	8	14	11	7	8	9	16	8%
61-70	6	2	4	6	3	10	8	8	5%
71-80	5	7	14	3	8	7	15	5	6%
81+	12	4	8	4	7	6	7	4	5%
unknown							1		0%
Total	60	68	75	70	77	60	74	72	100%

Source: FARS

Figure B.3-3 reveals that age groups considered at most at risk, the young (0-14 years old) and the aging (71+ years old) experience a disproportionately high percentage of crashes. In 2005, these age groups experienced nearly 40 percent of all traffic related fatalities involving pedestrians and bicyclist. This is slightly higher than the national average. In Washington, pedestrian injuries remain the third leading cause of injury death for children and youth. **Table B.3-8** confirms this through an additional data source compiled by the Washington State Department of Health.

Figure B.3-3 Pedestrian Involved Traffic Fatalities 1999-2006 – The Young and the Aging

Source: FARS

Table B.3-8 1999-2003 School Age Pedestrian Fatalities by Age and Year

Year	1-4 yrs	5-9 yrs	10-14 yrs	15-17 yrs	Total
1999	6	0	2	3	11
2000	6	5	4	2	17
2001	4	2	3	3	12
2002	6	4	2	3	15
2003	5	3	4	0	12
1999-2003	27	14	15	11	67

Source: Washington State Department of Health - April 2005 release

In addition to indicating greater vulnerability for the young and the old, that Washington State pedestrian fatality statistics also show that ethnic and racial minorities also experience a similar disproportionately higher percentage of crashes, as **Table B.3-9** shows.

Table B.3-9 Washington Pedestrian Fatalities, 1999- 2005* By Race and Ethnicity

<i>Race</i>	<i>Total Pedestrian Fatalities</i>	<i>Percent of Pedestrian Fatalities</i>	<i>Percent of Total Population</i>
White (a)	339	70.3%	77.1%
Black (a)	24	5.0%	3.5%
American Indian/Alaska Native (a)	32	6.6%	1.7%
Asian/Pacific Islander (a)	36	7.5%	6.4%
Hispanic (b)	48	10.0%	8.8%
Other/unknown	3	0.6%	3.0%

Source: FARS

(a) Includes persons reporting only one race

(b) Hispanics may also be included in other reported race categories.

*Note: Data not yet available for 2006 as this table relies on population estimates as well as collision data.

Finally, there is also a disparity between crashes by gender, with almost twice as many male pedestrians experiencing fatal injuries in a crash than female pedestrians, as **Table B.3-10** shows.

Table B.3-10 1999 to 2006 Pedestrian Involved Fatal Traffic Crashes by Gender

Gender	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
male	37	41	46	44	52	45	49	50	64%
female	23	27	29	26	25	15	25	22	36%
Total	60	68	75	70	77	60	74	72	100%

Source: FARS

When the crash data is compared to the origins and destination identified within ¼ mile of a state route, as shown on Map B.3-2, there appears to be a small correlation between the two, as **Map B.3-4** shows. There are numerous concentrations of pedestrian crashes near schools, parks and

local destinations. Not all destinations, however, have pedestrian crashes near them and not all of the crash locations are located near destinations. This analysis does not indicate that there is a definite link between the crash occurrences and the destinations near which they occur. It does point out a potential problem that should be investigated further to verify that there is or is not a clear link between pedestrian facilities and/or activity around important walking destinations and higher rates of pedestrian crashes.

When the location of pedestrian crashes is compared to the location of sidewalks along state routes, there does not appear to be a significant relationship between the two different sets of data as **Map B.3-5** shows. There appears to be an equal distribution of crashes between state routes with sidewalks and state routes without sidewalks.

Map B.3-6 shows the potential correlation between pedestrian crash data and regional centers. There does not appear to be either a greater or lesser distribution of pedestrian crashes in the centers.

II. ANALYZING BICYCLING CONDITIONS

Where and Why Bicyclists Ride

Similar to walking, more bicycling occurs in urban and suburbanizing areas. More bicycle lanes, trails and other bicycle accommodations are also provided in urban areas. **Table B.3-11** shows the reasons why people choose to bicycle in Washington as reported on the National Household Travel Survey.

Table B.3-11 Washington State Reasons for Bicycling

Bicycle Trip Types	Percent of Trips
Work	6%
Visit Family/Friends	6%
Shopping/Dining	3%
Social/Recreational	31%
Family/Personal	9%
Other	0%
School	6%
Home	38%
Total	100%

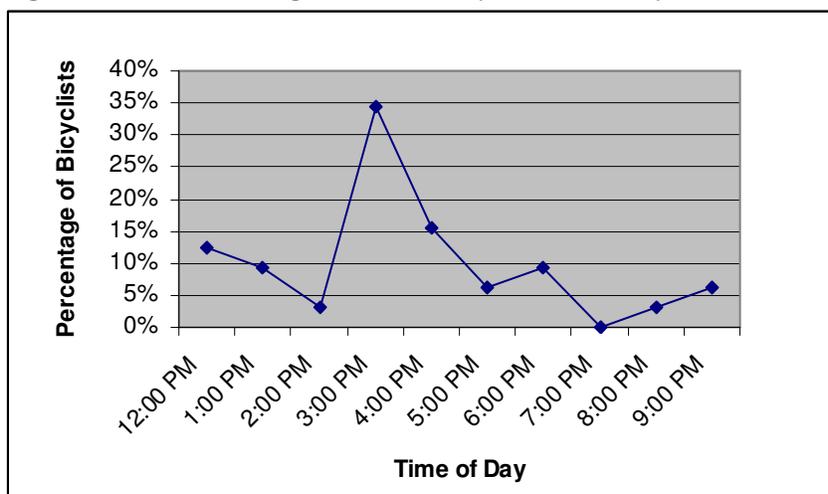
Source: NHTS 2001

Similar to walking trips, bicycling trips are typically based on bicycling to or from an origin or destination. The same origins and destinations considered to be important for pedestrians, as well as drivers, are also considered to be important for bicyclists as **Table B.3-11** shows.

Bicycling for Recreation

The National Household Transportation Survey identifies 31 percent of all bicycle trips as recreational trips. Recreation is important to Washington State for the economy and the health of Washington citizens. Recent recreational studies conducted by Washington State Recreation and Conservation Office finds that many Washington residents reported bicycling for recreation during 2006, approximately 42 percent of survey respondents. The most prevalent setting for bicycle riding was on roads or streets. 19 percent of Washingtonians reported riding a bicycle on an urban trail, and 11 percent rode a bicycle on a rural trail system.

Most of the bike trips in Washington State occurred between 11:30 AM and 9:30 PM, with a peak between 3:00pm and 4:00pm, as the information in **Figure B.3-4** shows.

Figure B.3-4 Washington State Bicycle Travel by Time of Day

Source: NHTS 2001

Bicyclist Involved Crash Data

Similar to the trend for pedestrian involved crash rates, Washington's ranking also fell from previous years when compared nationally in bicyclist safety performance. Washington placed 11th in 2005 with a bicyclist involved crash rate of 1.09 per 1,000,000 population. **Table B-3-12** shows the general breakdown by the type of injury of recorded pedestrian crashes between 1999 and 2006. As the table shows, less than 1 percent of the total number of crashes resulted in fatal injuries

Table B.3-12 Total Bicycle Crashes by Type of Injury from 1999 to 2006

Most Severe Injury Type	Number of Bicycle Crashes	Percentage of all Crashes
Dead at Scene	24	0.3%
Dead on Arrival	2	0.0%
Died in Hospital	43	0.5%
Disabling Injury	828	9.3%
Evident Injury	4787	53.8%
No Injury	500	5.6%
Possible Injury	2679	30.1%
Unknown	30	0.3%
Total Number of Bicycle Crashes	8893	100.0%

Source: WSDOT

Also similar to pedestrian fatal collisions, over 60 percent of fatal bicycle crashes occur in urban areas, as **Table B.3-13** shows. **Table B.3-14** also shows that by far the majority of these crashes, over 75 percent, occurred on city and county roads. **Map B.3-7** shows the location of bicycle crashes that occur on state routes.

Table B.3-13 1999-2006 Bicyclist Involved Traffic Crashes by Urban and Rural Areas

URBAN - RURAL	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
Rural	3	3	3	4	5	4	4	2	39%
Urban	6	9	5	7	5	3	9	5	61%
Total	9	12	8	8	10	7	13	7	100%

Source: FARS

Table B.3-14 1999-2006 Bicyclist Involved Traffic Crash Data Related to Road Type

Road Type	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
Interstate									1%
US Highway				1		1			3%
State Highway	2		2		3	2	2	1	18%
County Road	2	6	4	2	4	1	5		35%
City Street	5	6	2	8	3	3	6	6	44%
Total	9	12	8	11	10	7	13	7	100%

Source: FARS

For cyclists, 35 percent of collisions occurred while crossing roadways and another nearly 30 percent occurred while riding with traffic. Riding with traffic includes crashes where drivers were following too closely, drivers were exceeding safe speeds, and bicyclists were hit by an opening car door while riding next to parked cars, as **Table B.3-15** shows.

Table B.3-15 1999-2006 Location of Bicycle Fatalities in Washington

Location/Action	Percent
Cyclist Turned Into Path of Vehicle	10%
Fell Into Traffic	1%
Came From Behind Parked Vehicle	0%
Riding Against Traffic	11%
Riding with Traffic	27%
Crossing	35%
All Other Actions	7%
Unknown	9%
Total	100%

Source: WSDOT

Statistics for fatal bicycle crashes show that neither weather nor light conditions are associated with collision frequency or severity. Almost 90 percent of the crashes occur when there are no adverse weather conditions, and only about 19 percent of the crashes occur at night or dusk when there are no lights available.

Over 30 percent of fatal bicycle crashes involved children under the age of 15 year old between 1999 and 2006. This is more than twice as many as the next most affected age group, bicyclists between the ages of 31 and 40 years old, which accounted for 14 percent of fatal bicycle crashes between 1999 and 2006. Almost 50 percent of all fatal bicycle crashes involve individuals 20 years old or younger as **Table B.3-16** shows. Additionally, bicycle injuries were the second

leading cause of hospitalization due to injury for children 5 to 14 years old according to Washington State Department of Health data.

Table B.3-16 1999-2006 Fatal Bicyclist Involved Traffic Crashes by Age Group

Age Group	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
under 15	2	5		3	2	2	3		33%
15-20	1	1	1		4		1		14%
21-30	1	1	4	1		1	1	2	11%
31-40	2	2	3	2	1	2	1		16%
41-50	1	1		3	2	1	3	1	12%
51-60		1				1	3	3	6%
61-70	1			1					2%
71+	1	1		1	1		1	1	5%
Total	9	12	8	11	10	7	13	7	100%

Source: FARS

Male bicyclists were involved in far more fatal bicycle crashes than females between 1999-2006, as **Table B.3-17** shows.

Table B.3-17 1999-2006 Fatal Bicycle Crashes by Gender

Gender	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
Male	8	11	8	10	9	5	9	6	86%
Female	1	1		1	1	2	4	1	14%
Total	9	12	8	11	10	7	13	7	100%

Source: FARS

The majority of fatal crashes between 1999 and 2006 involved bicyclists not wearing helmets, as **Table B.3-18** shows. While the direct correlation between wearing a helmet and surviving a bicycle crash can not be drawn from this data, it does indicate the general trend that wearing a helmet can aid in surviving crashes. **Table B.3-19** shows the cities and counties requiring helmet use in Washington.

In September of 2007, the City of Seattle conducted bicycle counts and found that 85% of all cyclists counted were wearing helmets. This is an increase over 1992 when 71% of cyclists counted and 82% of cyclists counted in 2000 were wearing helmets. While these statistics are not applicable to the whole state, they do provide some idea on the level of helmet use in Washington.

Table B.3-18 1999-2006 Use of Bicycle Helmets in Fatal Bicycle Crashes

BICYCLE HELMET USE	YEAR								Percent
	1999	2000	2001	2002	2003	2004	2005	2006	
Used properly	2	3	3	1	2	3	6	1	24%
Used improperly									1%
None used	7	9	5	10	8	4	7	6	74%
Helmet use unknown									1%
Total	9	12	8	11	10	7	13	7	100%

Source: FARS

Several maps compare crash data to various other facilities and conditions to note if there may be a connections or correlation that should be reviewed further. **Map B.3-8** compares bicycle crash data and shoulder width; **Map B.3-9**, shows bicycle crash locations with bicycle lane locations. **Map B.3-10** places bicycle crash data and origins & destinations; **Map B.3-11** compares bicycle crash data and regional centers. In most cases, there does not appear to be a significant correlation between the two data sources; the crashes occur with similar frequencies in areas with and without the other facilities.

Table B.3-19 Cities and Counties Requiring Bicycle Helmets in Washington

City Name	Who is Affected	Effective Date
Aberdeen	All ages	2001
Bainbridge Island	All ages	2001
Bremerton	All ages	2000
Eatonville	Under 16	1996
Fircrest	All ages	1995
Gig Harbor	All ages	1996
Kent	All ages	N/A
King County	All ages	1993, 2003 updated to include Seattle
Lakewood	All ages	1996
Milton	All ages	1997
Orting	Under 17	1997
Pierce County (unincorporated)	All ages	1994
Port Angeles	All ages	1994
Poulsbo	Under 18	1995
Puyallup	All ages	1994
Renton	All ages	1999
Snohomish County	All ages	1999
Spokane	All ages	2004
Steilacoom	All ages	1995
Tacoma	All ages	1994
University Place	All ages	1996
All Military Installations	All ages	N/A

Chapter B.4 BICYCLE AND PEDESTRIAN CONNECTIONS

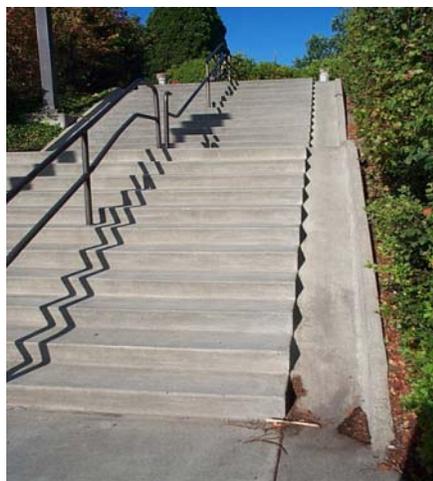
I. OVERVIEW

Recent studies demonstrate that pedestrian involved crashes are less frequent and severe when there are more people bicycling and walking along a corridor. A community that doubles the amount of bicycling and walking along a corridor can expect to reduce an individual's risk of being struck by a motorist by more than 60 percent on that corridor. This is because motorists drive much more slowly and cautiously when they see many pedestrians and bicyclists and faster when they see fewer.³

Connections Along and Across Roads and Streets

From the public opinion survey and public hearings to date, people have commented on specific locations where state routes in particular create safety concerns or access limits on intersecting local bicycle and pedestrian facilities. Some examples they gave include:

- **Single point urban interchanges (SPUI)** including on-and off-ramps, free right turn lanes and other elements associated with this type of interchange can make it difficult for a pedestrian or bicyclists to cross due to lack of crosswalks or pedestrian signals.
- **Concrete pillars** supporting overpasses often prevent retrofit to add bike lanes or sidewalks on the intersecting local road beneath.
- **Limited bike lanes striping**, particularly on the right side of the roadway, often disappear or are discontinued to make room for free right-turn lanes at intersections.
- **Roadway widening projects** that include at-grade pedestrian crossings need to give specific consideration to the extra crossing time that will be needed by the area residents, especially the young and the aging.
- **Signal timing** at many intersections needs to consider the pedestrian trying to cross the street.
- **Underpasses/Overpasses** often do not provide enough width to allow safe passage of pedestrians or bicyclists adjacent to motorist, and limit the possibility of adding sidewalks or bicycle facilities.



Bike track along staircase leading to Park and Ride Lot

For bicyclists and pedestrians, attention to detail is important when making connections as part of larger road projects. Often, very small investments can make biking and walking safer. An example is the inclusion of a bike track along side a set of stairs at a park and ride facility.

³ Jacobsen, PL. *Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling*. Injury Prevention 2003.

Grid Street Networks

Today, many transportation engineers and planners are working to improve, connect, or re-connect grid systems because of a growing body of research that compares grid systems with hierarchical streets and discusses the benefits of grids in terms of walkability, reduced traffic congestion, cost savings, safety, and associated health and air quality benefits. Cul-de-sacs and busy intersections with high speed traffic are reduced or eliminated in grid systems. Pedestrians have an easier time walking between neighborhoods, shopping, schools and other destinations. Grid systems also enhance access to mass transit. Complete grid systems in and around congested urban areas, especially where state highways intersect with busy surface streets, may also help state highway infrastructure to maintain acceptable levels of service longer, reduce maintenance costs, and improve safety.⁴

Transit Facilities

The comparison of crash data and transit routes shows that there is a large concentration of pedestrian crashes along transit lines on state routes as **Map B.4-1** shows. It is also clear that there are many other crashes that do not occur along transit routes. Further analysis of existing data shows that there are very few sidewalks along most of the state routes over which transit routes travel. It can not be assumed that the lack of sidewalks for transit users or the presence of the transit routes is the cause of the pedestrian involved crashes because many of these routes also carry high traffic volumes at high speeds and have additional challenges like large business signage, lack of lighting, and few marked or signalized crossings. Treatments and facilities within the transportation corridor, such as sidewalks, lighting, medians, and safe, frequent crossing opportunities along state routes used for transit service, as well as adjusting signal timing to provide pedestrians with more time to cross busy roadways, could be relatively inexpensive means of reducing pedestrian involved crashes.

Ferry Facilities

Map B.4-2 shows that most if not all Washington State Ferry terminals are on state routes, but that very few of these terminals appear to have sidewalks, bicycle lanes, or in many cases sufficient shoulder widths on the state routes to allow easy bicycle access. In many cases, pedestrian and bicycle access to state ferries is via local and county roads. Based on feedback from the public hearings held during development of this report, safe pedestrian and bicycle connections to ferry terminals are important as is bicycle parking on the ferries.

The current crash data does not indicate high collision rates associated with boarding or disembarking from ferries for either pedestrians or bicyclists. Additionally, there are no recent recorded bicycle or pedestrian fatal crashes associated with the ferries.

The Washington State Ferries attempts to work with bicyclist and pedestrians to rectify difficulties that are brought to their attention. An example is the provision of a special bicycle gate at the Bainbridge Island Ferry in the afternoons to allow those bicyclists with bicycle passes to access the ferry on paths separated from motor vehicles. Due to the variable nature of the ferry terminals, as well as the fact that the general boarding procedures are not uniform between the

⁴ Ewing, R., Schieber, R., Zegeer, C., *Urban Sprawl as a Risk Factor in Motor Vehicle Occupant and Pedestrian Fatalities*, American Journal of Public Health, Sept. 2003, Vol. 93, No. 9.

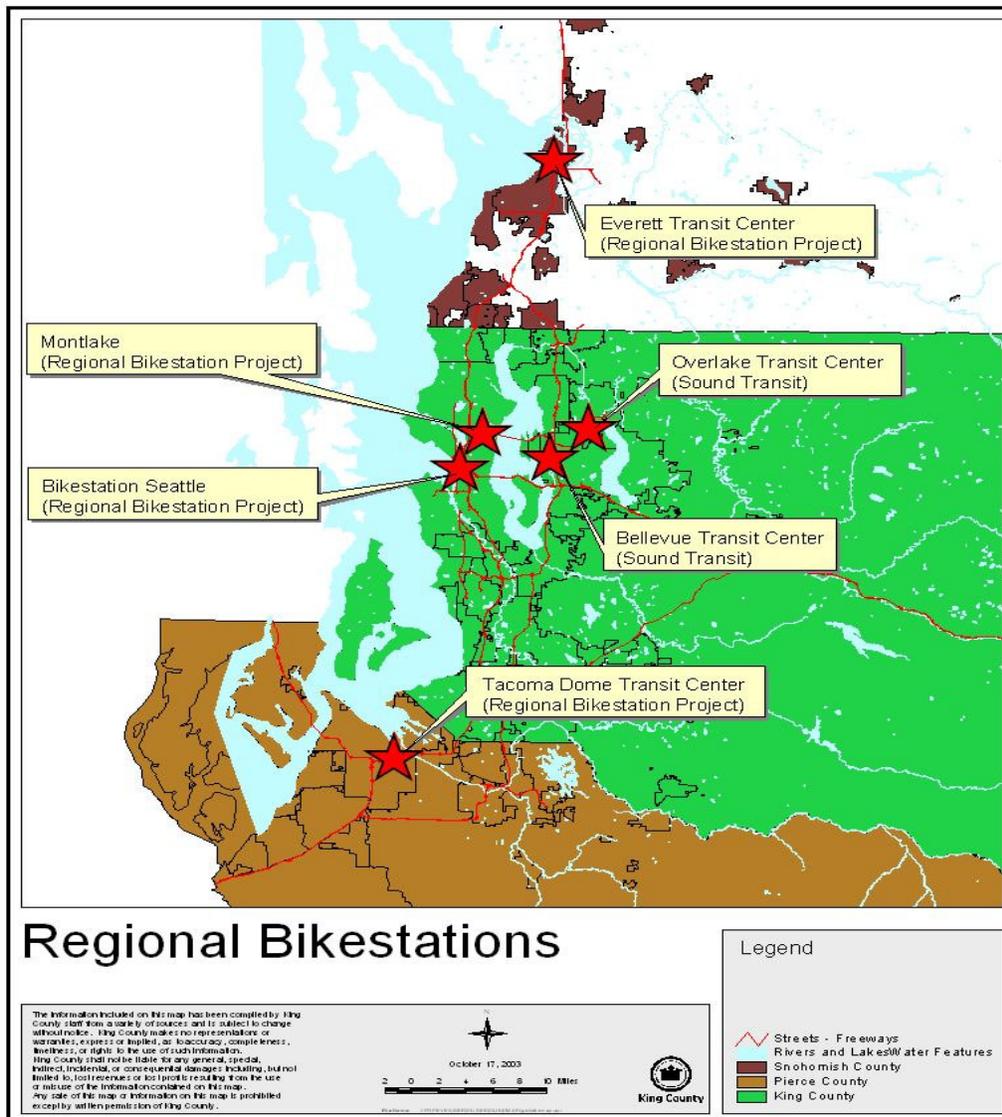
different ferry routes, it is not always possible to create a single, all-encompassing policy on how bicyclists and pedestrians board and disembark the ferries.

Bike Stations

The premise behind bike stations is to make two-wheelers an extension of public transportation. Bike stations are typically located a short distance from commuter trains, long distance trains, ferries, major bus transfer stations, and light rail or monorail lines.

For a fee, cyclists can lock their bikes on indoor bike racks. At some bike stations, like Bikestation Seattle located across from King Street Station on 3rd Avenue South in Seattle, members have access to rental bikes, electric scooters and Flexcars are parked outside. There is also a repair shop that is open during daytime hours. Figure B.4-1 shows the location of existing or planned bike stations in the Puget Sound Area. According to the most recent information, no other bike stations exist or are planned in Washington State.

Figure B.4-1 Bike Stations Planned in the Puget Sound Area



Chapter B.5 EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT

Walking, Biking and Driving

Increased bicycling and walking can play a part in the goal of reducing vehicular congestion in Washington State. It can also help to reduce air quality and other quality of life impacts. The National Household Transportation Survey (2001) results show that over 60% of all motor vehicle trips are 5 miles or less. Those NHTSA also shows that walkers and bicyclists in Washington State with access to motor vehicles drive fewer miles than motor vehicle owners that do not regularly walk or ride bicycles. The data shows that on average, bicyclists and walkers drove an average of 13,090 miles per year compared to an average of 14,074 miles per year. This is 7 percent fewer miles driven per year by recorded bicyclists and pedestrians who also have access to motor vehicles.

Public Education and Encouragement

The public health profession has stepped up its involvement in and support of bicycling and walking for transportation in recent years in response to state and national data on the increasing rates of obesity, diabetes and other related diseases.

Washington State Department of Health (DOH) reports that in 2005, only 64% of Washington adults received the minimum amount of physical activity recommended by the US Centers for Disease Control and Prevention (30 minutes of moderate intensity physical activity five days a week or 20 minutes of vigorous activity on at least three days a week).

DOH found that people living close to walkable destinations are more likely to walk and be physically active. They report that 75% of Washington residents live within a 10-minute walk of at least one community destination (e.g. school, grocery store, bank, post office), but only 20% live close to six community destinations. Adults living in urban areas are more likely to have access to one recreation destination than those living in suburban areas.

Free Bike Helmet Program

The Washington Trauma Society acts as an on-going clearinghouse for the distribution of bicycle helmets to children of low-income families. This effort is conducted through eight region EMS Councils. Before being given a helmet, each child receives instruction in its use and each helmet is fitted properly. Yearly observations and statewide surveys show a continued increase in bicycle helmet usage.

Safe Routes to Schools

The Safe Routes to School program is supported by both the Federal Government and Washington State through recent legislation. The Federal Transportation Act (Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)) included a federal funding program for the Safe Routes to School program. The Engrossed Substitute Senate Bill 6091, also included a state funding commitment to support pedestrian and bicycle safety projects such as safe routes to school, transit and pedestrian and bicycle paths.

The purpose of the Safe Routes to Schools program is to provide children a safe, healthy alternative to riding the bus or being driven to school. Eligible projects include engineering improvements, education and encouragement projects and programs, and enforcement efforts within two-miles of primary and middle schools (K-8).

School Zone Safety Program

In 1996 the Washington legislature enacted the School Zone Safety Act. This act requires that fines be doubled in school zones, and one half of all funds collected are returned to WTSC to increase safety in school and school bus zones. Funds collected so far have provided every elementary school in Washington State two new sets of state-of-the-art, high tech and visibility crossing guard equipment. Last year, each school received a School Zone Safety Crossing Guard curriculum kit and resource guide. A segment of the kit was dedicated to parents and printed in nine different languages. Funds are also used to support demonstration projects. University Place and Aberdeen, WA are currently installing "in-pavement flashing crosswalks" in high volume pedestrian traffic areas. Funds are used to support different projects and programs at individual schools. Each year support is offered to schools to participate in the International Walk Your Child to School event. Radio public service announcements have also been produced and played in the Fall to remind drivers that children are back in school and to drive safely.

Current Mobility Education Efforts in Washington

Mobility education is an effort to provide people, new drivers in particular, more and better information about all kinds of transportation and transportation safety. The Mobility Education Foundation, established in 2007, is located in Washington and serves as a resource. Bicycle Alliance is another resource for mobility education materials and assistance.

Pedestrian and Bicycle Safety Grants

In 2005, the Washington State Legislature included \$74 million over 16 years to support pedestrian and bicycle safety projects such as pedestrian and bicycle paths, sidewalks, safe routes to school and transit. The Pedestrian & Bicycle Safety program was initiated to reduce the nearly 400 statewide fatal and injury collisions involving pedestrians and bicycles each year.

The purpose of the Pedestrian and Bicycle Safety program is to aid public agencies in funding cost-effective projects that improve pedestrian and bicycle safety through engineering, education and enforcement. Eligible projects may include engineering improvements, education programs and enforcement efforts.

Cooper Jones Committee

The Cooper Jones Advisory Committee was established in 1998 as the Washington Traffic Safety Commission was directed to promote a pedestrian and bicycle safety program in Washington. The Committee provides funding to education, encouragement and enforcement efforts across the state. Bicycle Safety is currently being promoted through the Share the Road Campaign and Belo Marking Solutions Northwest. This campaign is promoting "Same road, Same Rules and Same rights for bicyclists, motorists and drivers".

Share the Road Buses

The Washington Traffic Safety Commission in partnership with Spokane Transit and community partners brought the first "Share the Road" bus into action in Spokane County in 2001. Since then, buses in Grays Harbor County and Skagit County have been transformed into rolling billboards as well. Completely refinished in the new bright colors and bold graphics, the bus sends a continuous moving traffic message to all pedestrians, drivers and cyclists.

