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TRANSPORTATION DEMAND STRATEGIES FOR SCHOOLS PHASE II REPORT:
REDUCING AUTO CONGESTION AROUND SCHOOLS

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16. ABSTRACT

This study examines efforts at ten locations in urban, suburban, and rural areas of Washington state to reduce auto use around schools. Elementary and middle school efforts emphasized and facilitated alternatives to car trips through walking school buses, website networking, school-based campaigns, and infrastructure improvements. High school and higher education programs provided pre-paid transit service and transportation education. Key strengths of these efforts were integration into a larger policy framework, and listening and learning from customers. Elementary and middle schools programs that used education and encouragement along with engineering improvements and traffic law enforcement (the Safe Routes to School approach) and adapted to parent needs reduced auto congestion. Education and encouragement may also be beneficial for high school students. At the college/university level, mandatory universal transit/unlimited access passes reduced congestion. All efforts faced barriers, namely congestion reduction is not a primary mission of schools, and there is no larger policy framework to motivate change or site schools in ways that make alternative modes of transportation feasible. The lack of disincentives for driving, such as regulating drop-offs at K-8 schools or charging and managing parking at high schools and universities, limits the potential of trip reduction programs. The study concludes that auto congestion around schools can be reduced by state policies that set targets to reduce auto use and increase walking/bicycling, update school siting and performance standards, expand the Safe Routes to School approach and align it with TDM efforts, and require all colleges and universities to implement universal transit/ unlimited access pass programs.

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CONTENTS

EXECUTIVE SUMMARY ..... **IX**

SECTION I: INTRODUCTION **1**
Background and Purpose 1
Review and Context 2

SECTION II: PROGRAMS OF INTEREST **6**
Go! Program 6
Mount Vernon Walk to School Program 13
Phantom Lake Elementary PTA Walk to School Program 20
Mobility Education 25
Seattle Public Schools High School Transit Pass 28
SchoolShare-Ride/Walk Sharing Website 33
Schools in GTEC—Thurston Regional Planning Council 40
Whidbey Island School Districts/Island Transit 46
Western Washington University—Viking Xpress Pass and Student Transportation Program 59
Central Washington University—Central Transit 67

SECTION III: FINDINGS **73**
Strengths 73
Barriers 77

SECTION VI: RECOMMENDATIONS **78**

REFERENCES **83**

APPENDIX A: PROGRAMS OF INTEREST SUMMARY TABLES **A-1**

APPENDIX B: PROGRAMS OF INTEREST DIRECTORY **B-1**

APPENDIX C: UW RESEARCH TEAM ACTIVITY AND DOCUMENTS **C-1**

APPENDIX D: POLICY ISSUES FOR FURTHER RESEARCH **D-1**

Figures

Figure		*Page*
II-1	Students Walk to School in West Seattle	7
II-2	Sanislo Sidewalk	9
II-3	Sanislo Classroom Commute Mode Poll	10
II-4	Mt. Vernon Walking School Bus	13
II-5	Stop for Walkers	14
II-6	Motivations and Responsibilities	17
II-7	Mode Split at Lincoln Elementary	18
II-8	Satellite Photo of Phantom Lake Elementary	20
II-9	Share of Arrivals by Car 2008	22
II-10	Comparison of Phantom Lake Elementary Walk to School and Trips to School Efforts	22
II-11	Mobility Education One-Day Course Logo	25
II-12	Mobility Education One-Day Course Agenda	26
II-13	Awaiting Transit	28
II-14	Transportation Eligibility	29
II-15	CSHS Share of Auto Days	30
II-16	Chief Sealth Mode Split	31
II-17	SchoolShare Logo	33
II-18	SchoolShare Icon	33
II-19	SchoolShare Homepage	34
II-20	When Parents Click on the List for a Family, They Are Able to Email Them through This Form	35
II-21	Walking School Bus Stop	36
II-22	Growth and Transportation Efficiency Center 2007-2009	40
II-23	Madison Walk & Roll Logo	42
II-24	Awards Table	42
II-25	Madison Elementary Walkers	43
II-26	Island Transit and Ferry	46
II-27	Island Transit Route Map	52
II-28	Island Transit Vehicle	53
II-29	Late Night Shuttle Schedule	59
II-30	Western Student Transportation Organization Chart	61
II-31	WWU Student Commute Mode Split	62
II-32	Off-Campus Student Mode Split Snapshot	63
II-33	Student Mode Choice Influences	64
II-34	Central Transit Vehicle	67
II-35	Bus Stop	68
II-36	Route Map	69
II-37	Core CWU Campus	70

Tables

Table		*Page*
I-1	Programs of Interest TDS for School Study	4
I-2	Assistance Provided to Programs of Interest	5
II-1	Go! Car Counts	11
II-2	Parent Survey	11
II-3	Mode Split Comparison	30
II-4	Madison Elementary Mode Share	44
II-5	Advantages, Disadvantages and Opportunities by Mode	49
II-6	Vehicle Volume	63
II-7	Transit Ridership	63
II-8	Central Transit Boardings and Service Improvements	69

EXECUTIVE SUMMARY

STUDY PURPOSE AND RESEARCH METHOD

The Washington State Legislature asked this study to identify pilot programs that could reduce auto congestion around schools, learn from them, and make recommendations about their future use.

This study explored ways to "reduce and remove traffic congestion in front of schools." The first phase *Transportation Demand Strategies for Schools (2007)* reviewed the literature, extracted models, and identified existing or planned programs in Washington state that were similar to these proven models at the elementary, secondary, and post secondary levels and in urban, suburban, and rural locations. These were designated as Programs of Interest (POI) and included specific learning objectives for further study. This report, the second phase, provides a more detailed description of the POIs, as well as an analysis of their strategies for change, results, and suitability for transfer and adaptation to other locations. The researchers assumed multiple roles in the study, in some cases only observing and documenting and, in others, providing technical assistance and developing tools with program staff to build capacity and measure results.

PROGRAMS OF INTEREST

Elementary and Middle School Programs

- Go! Safe Routes to School Program, Seattle
  Safe Routes to School in a large city

- Healthy Communities Project/Safe Routes to School/Walking School Bus, Mt. Vernon
  Safe Routes to School as part of a healthy communities initiative

- Phantom Lake Elementary PTA Walk to School Program, Bellevue
  A volunteer-led effort in a suburban neighborhood

High School Programs

- High School Transit Pass, Seattle Public Schools
  Promoting transit as a car alternative

- Mobility Education, Federal Way
  Enlarging the scope of drivers ed

K-12 Programs

- Schools in GTEC - Thurston Regional Planning Council (TRPC), Olympia
  Including schools in a Growth and Transportation Efficiency Center

- SchoolShare Website, Seattle/Oak Harbor
  Social networking to increase walking, biking, and ridesharing to school

- Whidbey Island School Districts/Island Transit
  Maximizing transit potential in rural areas

University Programs

- Central Washington University (CWU) – Central Transit Program, Ellensburg
  Creating a transit alternative in a rural area

- Western Washington University (WWU) – Viking Xpress Pass and Student Transportation Program, Bellingham
  Introducing a mandatory unlimited access pass

FINDINGS

No single program or tool universally reduces auto congestion around schools. The Programs of Interest revealed no silver bullet. Rather, a variety of tools exist that schools, other civic institutions, parents, and students can employ or adapt singly and in combination to reduce auto congestion around schools. These range from a Safe Routes to School walking program at elementary schools to a mandatory unlimited access transit pass at a university. Programs increased success by listening and responding to customers, adapting existing models to parents' actual car driving behavior, and creating an institutional framework with multiple stakeholders invested in the program results.

The study identifies several barriers that stand in the way of statewide and local efforts to reduce auto congestion around schools. These are grouped by category:

Overarching

- Reducing auto congestion is not part of schools' primary mission or plans as providers of basic education. K-12 schools have few incentives or requirements to reduce auto congestion.

- There is no existing framework to encourage or require congestion reduction around schools. Elementary and secondary schools have been exempted from the CTR Law and generally have not developed a culture or administrative system to reduce employee or student auto use.

- Schools are not sited with the intention of being accessible by foot, bicycle, or transit.

K-8

- The Safe Routes to Schools program offers benefits beyond safety and healthy physical activity for students. It is one of WSDOT's tools to help residents reduce vehicle miles travelled (VMT) and greenhouse gas (GHG) emissions. However, it does not appear to be linked with or focused on other departmental transportation demand management (TDM) and commute trip reduction (CTR) strategies. Under its current formulation, its key indicators revolve around physical activity and safety, not measures of auto use and student drop offs.

High School

- Schools in our Programs of Interest did not employ disincentives to driving alone such as charging high school students to park or limiting drop-off and pick-up space in front of schools.

College/University

- While the post-secondary Programs of Interest charged for parking, they did not manage parking with the intention of reducing demand, unlike the model unlimited access pass programs referenced in Phase 1 of the study.

RECOMMENDATIONS

The findings lead to several recommendations about what state and local leaders can do to reduce auto congestion around schools.

- *Set auto use reduction targets for schools.*

If the state legislature sets targets, school districts, individual school administrators, parents, and municipal agencies could work together to select the combination of programs (covered in this report) to best meet their needs to achieve the targets. In the absence of any measurable targets, there is little incentive for school leaders to act on something that is often considered peripheral to their primary mission of educating students.

- *Set walking/bicycling targets for schools.*

In 2008 the state legislature set specific targets for vehicle miles traveled (VMT) by Washington residents for the years 2020, 2035, and 2050; it should establish walking and bicycling targets as well. The absence of targets set by legislative policy enables decision makers to overlook non-motorized options for reducing auto congestion around schools.

- *Expand Safe Routes to School and exploit it as an auto congestion reduction program.*

The Safe Routes to School program is primarily viewed and implemented as a child safety and physical activity program. As the Go! and Mt. Vernon programs demonstrate, it can also be effective at reducing auto congestion around schools. To realize the full potential of Safe Routes to School, it should be aligned with the suite of WSDOT transportation demand efforts aimed at auto use reduction targets.

- *Relate school siting and performance standards to state laws reducing VMT, GHG emissions, and commute trips.*

The state should indicate a preference for schools to be located on major transit routes or within walking distance of a large student population; relate this to the Growth Management Act, Growth Transportation and Efficiency Center standards and the High Performance Public Building Act; and favor new school locations near public transit, with bicycle paths and parking, minimized parking stalls, and preferred parking for carpool or alternative fuel vehicles.

- *Require all colleges and universities to adopt universal/ unlimited access transit pass programs.*

Unlimited access transit pass programs have proved to be very successful at universities across the country and in Washington state. They increase transit usage, decrease auto use, reduce the need for new parking structures, and can involve students in the design, funding and governance of the programs. The case of Central Washington University demonstrates they can even be implemented where no public transit system exists. The state should mandate that they be in place at all two- and four-year colleges and universities.

Implementing many of these recommendations, such as setting car use reduction targets, entails no new funding and will likely result in cost savings; for example, new parking structures would no be longer required. Some recommendations, such as expanding the Safe Routes to Schools program, would require additional funding, likely from multiple sources at the state, local, and national levels.

SECTION I: INTRODUCTION

The Washington State Legislature asked this study to identify pilot programs that could reduce auto congestion around schools, learn from them, and make recommendations about their future use. The term 'pilot' in this report includes programs that existed prior to 2008 as well as programs initiated in 2008 in Washington state. This report refers collectively to them as Programs of Interest (POI). We have examined and worked with programs to learn about their structure, strategy, results, replicability and relationship to policies. Programs of Interest are grouped into four categories: elementary schools, high schools/middle schools, K-12, and colleges and universities. Within each section is a brief description of the program, the broader model it represents, its objectives, its underlying strategy for change, and the lessons learned that can inform other implementers and policy makers. Programs of Interest include schools in big, medium, and small cities, as well as suburban and rural areas.

BACKGROUND AND PURPOSE

ESHB 1094, the 2007-2009 transportation budget adopted by the Washington State Legislature, contains the following proviso as part of the appropriation for the Washington State Department of Transportation's (WSDOT) Public Transportation Division:

> "$200,000 of the multimodal transportation account—state appropriation is provided solely for the department to study and then develop pilot programs aimed at addressing commute trip reduction strategies for K-12 students and for college and university students. The department shall submit to the legislature by January 1, 2009, a summary of the program results and recommendations for future student commute trip reduction strategies. The pilot programs are described as follows:
>
> (a) The department shall consider approaches, including mobility education, to reducing and removing traffic congestion in front of schools by changing travel behavior for elementary, middle, and high school students and their parents; and
>
> b) The department shall design a program that includes student employment options as part of the pilot program applicable to college and university students."

This study explored ways to "reduce and remove traffic congestion in front of schools," as directed in the above budget proviso and was carried out in two phases. Phase One

reviewed the literature on transportation demand strategies for schools, extracted models, and identified existing or planned programs in Washington state that were similar to these proven models. These were designated as Programs of Interest and included specific learning objectives for further study.

Phase Two encompassed a more detailed description and assessment of each Program of Interest and, in several cases, technical and financial support in order to understand the impacts and potential of the program's efforts. Phase Two looked at results whenever possible, as well as the efficacy of each program's strategy for change or underlying assumptions upon which it is based. The findings from Phase Two are presented in this report, and they lead to recommendations for reducing auto congestion around schools.

REVIEW AND CONTEXT

Auto Congestion

Traffic congestion around schools is an issue for students, their families and those with no direct connection to schools. For students and their families, primary concerns related to school traffic congestion include the following:

- Safety: the personal safety of students is at risk in busy traffic
- Cost of transportation: car trips create financial and time costs for parents and students
- Environment: car trips to schools create environmental hazards
- Health: reducing congestion can be tied to improving physical activity among students.

School-related traffic also has important consequences for those with no direct relationships to schools because of the impact of school traffic on the entire transportation system. According to Bryan Mistele, CEO of the traffic forecasting company Intrix, "the number one variable that influences traffic patterns is...school schedules" (Cascadia Center June 2008 Newsletter). This study was designed to provide insight into strategies to reduce car congestion around schools in the context of existing efforts to reduce congestion in our state's transportation systems (e.g.: HOV lanes and transit and vanpools), as well as the context of safety, environmental, and public health issues that align with managing transportation demand.

Literature Review

In Phase One we conducted a review of the literature on strategies to reduce congestion around schools. We found that parents are influenced to drive their children by many factors; primary among them are distance from school, travel time, unsafe traffic/travel environment, fear of crime, and poor weather conditions. At the elementary school level, Safe Routes to Schools programs provide proven alternatives to single occupancy vehicle

(SOV) commuting. The Safe Routes to Schools framework encourages comprehensive programs that improve physical infrastructure, educate parents and students, and enforce traffic laws to encourage walking and biking. Other proven models at the elementary school level include educational and involvement programs, walking school buses, traditional yellow school buses, ride-matching and car pooling services, and changes to school siting requirements. At the secondary school level, increasing student education about mobility options, providing free transit passes, charging for parking, and promoting carpooling offer options. At the post-secondary level, unlimited access transit systems, guaranteed ride home, and variable parking rates have proved effective at reducing auto-dependency. Creating successful programs depends on many factors, such as incentives for schools to participate, ownership by the school, and long-term funding. Important policies that determine the ability to manage transportation demand include the siting of schools, the type of transportation provision provided by the district, and coordination between the entities involved.

Methodology

The study's Programs of Interest (POI) are listed in Table I-1.

We sought to understand what each POI actually did or intended to do. We wanted to

- identify the *strategy for change* [1] that guided each program's efforts and activities
- learn how effective the POIs were at reducing auto congestion around schools
- find out whether the POI could be replicated elsewhere.

In a few cases we were able to observe program operations and efforts and gather existing information in a traditional research role. This approach applied to Mt Vernon's Healthy Communities Walking School Bus, Central Washington University's Transit Program, and Phantom Lake Elementary School's PTA Walk to School efforts.

In most cases, the study team worked with POI staff to either develop new initiatives or to design and implement surveys or focus groups to learn about program performance and future program design.

The study team developed work plans for each POI that specified research questions and instruments for attaining information, a division of responsibilities for implementation

[1] Strategy of Change is adapted from the term Theory of Change. As described by Carol Weiss (Evaluation: Methods for Studying Programs and Policies, 1998), the term refers to the how and why an initiative works. It encompasses the assumptions underlying steps toward a goal, linking activities and outcomes. Weiss hypothesized that program managers are often unclear about how change will take place as a result of their program. She proposed that being specific about the theories of change guiding an initiative would improve evaluation of an initiative and improve the ability to assign responsibility for and explain outcomes.

between the POI and the UW research team, and a budget for programs that received funding from WSDOT to carry out work related to this study.

The UW researchers' role in this process was to both gather information about POI strategies and effectiveness at reducing congestion and their potential for replication, as well as to support the POIs in building capacity, testing new ideas, or fine tuning their programs. Research support varied widely depending on the need and interest of the program. For example, researchers were strictly observers at Central Washington University, where a university/community built transit system transports students, whereas on Whidbey Island UW researchers brought together key school and transportation leadership and conducted multiple focus groups across districts and grade levels to understand how parents and students made transportation choices and what barriers existed to changing their behavior. More information on the UW study team's activities is provided in Appendix C.

Table I-1: Programs of Interest TDS For Schools Study:
Our research portfolio comprised these ten programs

Elementary and Middle School Programs
- Go! Program, Seattle
- Mt. Vernon Walk to School Program
- Phantom Lake Elementary PTA Walk to School Program, Bellevue

High School Programs
- Seattle Public Schools High School Transit Pass
- Mobility Education, Federal Way

K-12
- Schools in GTEC - Thurston Regional Planning Council (TRPC), Olympia
- SchoolShare-Ride/Walk Sharing Website, Seattle/ Oak Harbor
- Whidbey Island School Districts / Island Transit

University Programs
- Central Washington University (CWU) – Central Transit Program, Ellensburg
- Western Washington University (WWU) – Viking Xpress Pass and Student Transportation Program, Bellingham

Table I-2: Assistance Provided to Programs of Interest

Programs	UW Assistance
Elementary and Middle School	
Go! – Feet First	*Survey instrument design, implementation and analysis, WSDOT supplement*: UW researchers created a strategy to supplement Safe Routes to School evaluation with car counts and assisted with implementation and analysis. WSDOT provided a supplement to Go! to fund car counts.
Mt. Vernon Walk to School Program	*Observation, interviews:* UW researchers conducted a group interview with the Safe Routes to School advisory committee and interviewed the program founder.
Phantom Lake Elementary PTA Walk to School Program	*Observation, interviews, offer support:* UW researcher interviewed and maintained contact with the program volunteer and offered support.
High School	
Schools in GTEC - Thurston Regional Planning Council (TRPC)	*Observation, interviews, WSDOT supplement:* UW researchers interviewed the program manager. WSDOT provided a supplement to the TRPC to fund program creation and implementation and for a how-to manual.
High School Transit Pass – Seattle Public Schools	*Survey instrument design and analysis, WSDOT supplement:* UW researchers created and analyzed a survey implemented by students and staff at Chief Sealth High School. A WSDOT supplement support in-school implementation
Mobility Education – Mobility Education Foundation	*Survey instrument design, WSDOT supplement:* The UW drafted a survey and interviewed the program manager. The WSDOT supplement was intended to fund one-day transportation training for students and parents.
K-12	
Whidbey Island School Districts/ Island Transit	*Program design; survey instrument design, implementation and analysis, dedicated research assistant from WSDOT supplement:* UW researchers designed and implemented an effort to improve transportation efficiency through facilitating meeting with school district and transit leaders and conducting focus groups with parents and students. WSDOT provided a supplement for the UW to hire a researcher to conduct this effort.
SchoolShare Ride/Walk Matching Website	*Program design; survey design, implementation and analysis, WSDOT supplement:* UW researchers facilitated a focus group and assisted with program evaluation and development
WWU – Xpress Pass and Student Transportation	*Survey instrument design and analysis, WSDOT supplement:* UW researchers designed an evaluation strategy and created and analyzed a survey and data gathered by students. WSDOT provided WWU a supplement to gather data.
CWU – Central Transit	*Observation, interviews:* UW researchers conducted a group interview with the Central Transit Committee.

SECTION II: PROGRAMS OF INTEREST

GO! PROGRAM

Safe Routes to School in a large city

Description

Sanislo Elementary School led a partnership of three Seattle urban neighborhood schools—Sanislo, West Seattle Elementary School, and Denny Middle School—in applying for a Washington Safe Routes to School grant for the Go! program. Feet First, a walking and bicycling advocacy organization, was contracted to coordinate Go!, which was created to increase walking and bicycling. Starting in the spring of 2006 each school designed its own walk or bike to school program through a community involvement process based on five E's: Engineering, Education/Encouragement, Enforcement, and Evaluation. Go! implemented the Comprehensive Family and School model (see Phase 1 p.64 of this study).

Objective

Increase the school-wide percentage of students walking to 25 percent (the national average is now less than 16 percent, in the 1950s it was over 50 percent)[2], increase carpooling to school, and decrease the percentage of students who arrive at school by car.

Strategy for Change

Emphasizing walking in schools will create excitement among students and behavioral changes. Parent engagement in the program's design will increase appropriateness for the school and participation. Together these efforts will reduce car traffic at schools.

Implementation

Management

Feet First coordinates the Go! Program. It organized Go! activities in conjunction with parent volunteers at Sanislo Elementary and parents and school staff at West Seattle Elementary and Denny Middle School. These stakeholders played a role in designing the encouragement, education, engineering, and enforcement efforts that took place at their school.

Funding

Go! is funded by a grant from the WSDOT Safe Routes to School program.

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[2] 2001 National Household Travel Survey cited in "Travel and Environmental Implications of School Siting, EPA 2003

Components

The Go! program included the education and encouragement, enforcement, and engineering. Education and encouragement occurred primarily during International Walk to School Week in October and Safe Routes to School Month in May. Enforcement took place February through May 2008, and most of the engineering improvements were completed toward the end of fall 2008, the remaining will be completed in 2009.

Figure II-1:Students Walk to School in West Seattle

<u>West Seattle Elementary</u>
Overview: Extensive education and encouragement, some traffic enforcement, and minor engineering changes.

Summer 2007
Engineering: Walk to school pedestrian audit with school and community members to identify and rank engineering needs.

Fall 2007 to Winter 2007
Education and Encouragement: Bicycle education, racks and equipment. Feet First trainings for school staff, parent phone calls and document translation in preparation for Family Health and Safety Night, which included presentation and discussion groups with 45 parents and community members.
Enforcement: Relocation of a crossing guard to a critical intersection, but loss of a second crossing guard to illness.

Spring to Summer 2008
Education and Encouragement: Feet First conducted a month-long Safe Routes to School Walking Fridays program, which included organizing walking groups and providing incentives such as t-shirts from a student design contest. Parent presentations and volunteer outreach by Feet First. "Neighborhoods on Foot" walking map of West Seattle distributed to all students.

Engineering: A parent motivated by Family Health and Safety Night and Feet First outreach testified with community members at a pedestrian safety meeting, which led to the creation of a crosswalk.
Enforcement: Emphasis patrols, speed reader boards and other enforcement services.

Fall 2008
Education and Encouragement: Walk to school brochure distributed to parents.

2009
Education & Encouragement: There may be funding for additional student pedestrian safety training.

Sanislo
Overview: Major engineering investments, education and encouragement by Feet First and parents, as well as some traffic law enforcement.

Summer 2007
Engineering: Walk to school pedestrian audit with school and community members to identify and rank engineering needs.

Fall 2007 to Winter 2008
Education and Encouragement: Feet First presentations and communication with parent groups on walking as well as bus use and carpooling. One day walk to school kick-off event and ongoing self organized walk to school program in which students and family members met along walking routes and filled out logs to record their walking, biking, or bus trips to and from school.
Engineering: Buses rerouted to reduce congestion and improve safety.

Spring to Summer 2008
Education and Encouragement: Neighborhoods on Foot" walking map of West Seattle distributed to all students.
Engineering: Sidewalk improvements, lighting and other upgrades to a staircase that connects the school to a major arterial funded by The City of Seattle.
Enforcement: Emphasis patrols, speed reader boards, and other enforcement services.

Fall 2008
Education & Encouragement: Student pedestrian safety training, newsletter articles, encouragement game for students, and walk to school event with the mayor of Seattle.
Engineering: Handmade "no parking" signs across from new sidewalk to discourage illicit crossing, which encourages parking further from school and walking.

2009
Engineering: Remaining funding will be used to install a new sidewalk for one block along one route to school where children are currently walking on the side of the road.
Education & Encouragement: There may be funding for additional encouragement similar to the program completed the previous spring at West Seattle Elementary.

Denny Middle School
Overview: New crosswalk, some traffic enforcement and minor education and encouragement.

Figure II-2: Sanislo Sidewalk: The Go! program included major improvements to pedestrian infrastructure.

Summer 2007
Engineering: Walk to school pedestrian audit with school and community members to identify and rank engineering needs.

Fall 2007 to Winter 2008
Feet First presentation to PTA and participation in several community meetings about pedestrian issues in the school neighborhood.

Spring to Summer 2008
Education and Encouragement*:* Neighborhoods on Foot" walking map of West Seattle distributed to all students.
Enforcement: Emphasis patrols, speed reader boards, and other enforcement services.

Fall 2008
Engineering: Deluxe crosswalk improvement with warning sign built between a major commercial area and both Denny Middle School and Chief Sealth High Schools. This is a common walk route and was a priority for Denny's principal.

Research Questions and Methods

We sought answers to these questions:

- What strategies were employed at the different schools?
- Did car traffic decrease?
- Did walking and biking increase?
- Did outcomes vary by socioeconomic levels of the schools' student bodies?

By using these methods:

- existing Safe Routes to School evaluation tools:

- classroom transportation mode poll conducted before and one year after the start of Go! to assess long-term impacts
- parent surveys that were distributed during and near the end of the program to assess attitude and behavior changes

- car counts in front of the schools to directly assess congestion reduction before, immediately after, and four months following the Go! interventions
- analysis of demographic and achievement data in relation to the car counts, classroom poll, and parent surveys to assess the impacts of socio-economic factors on reducing congestion.

Results

The Go! program resulted in an 8 percent reduction in students who reported that they traveled to and from school by car from September 2007 to September 2008 at Sanislo Elementary. The reduction was attributable to increases in carpooling and yellow bus use. Parent surveys (see Table II-1) also showed a reduction in car travel and increases in bus, bike, and pedestrian travel to and from school from the spring of 2008 to the fall of 2008, although the survey response rates were low. Observations of cars dropping off students at school also declined slightly in counts during the same time period.

Go's month long walk to school encouragement program at West Seattle Elementary School resulted in ten fewer cars counted dropping students off the following month, a 20 percent reduction. Between the end of April and end of May 2008, slightly fewer students were counted being dropped off at Go! schools. All participating schools received police emphasis patrols during this time, but only West Seattle Elementary participated in a month-long program encouraging walking to school. The control school saw a slight increase in cars arriving at school. Follow-up counts in fall 2008 showed that car volume was still slightly less than the initial spring counts, while traffic increased by a few cars at the control school.

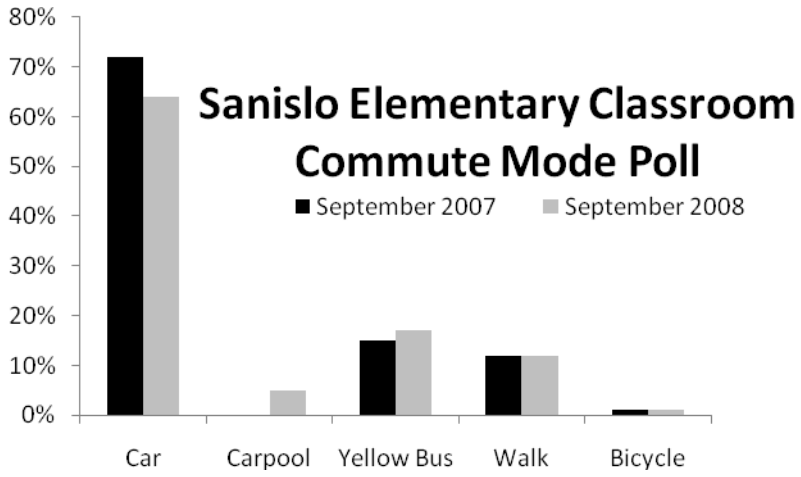

Figure II-3: Sanislo Classroom Commute Mode Poll: Eight percent fewer students reported commuting to school by car at the end of the Go! program than at the beginning.

Major engineering projects were being completed toward the end of the study; their impact could not be adequately assessed in the short-term.

Enforcement that took place during the spring at Denny and Sanislo, while no other interventions were under way, coincided with a small percentage decrease in parents dropping off students.

We were unable to determine the impact of socioeconomic differences between the schools on reducing car congestion.[3]

Table II-1: Go! Car Counts: Conducted midweek in April, May, and the following November; instances of cars dropping off students decreased following interventions relative to the control school but rebounded after the summer.

	Intervention	Enrollment	Student Drop-offs by Car					
Date		May 2008, Oct 2008	4/22/2008	4/29/2008	5/27/2008	10/5/2008	% change after one month	% change from initial count to last count
Weather			Cold and Clear	Cold and Clear	Mild, overcast, some showers	Cold and Clear		
Denny	Enf: Patrols	607/ 619		168	155	164	-8%	-2%
West Seattle	Edu & Enc: SR2S Month Enf: Patrols	315/ 300	66		53	63	-20%	-5%
Sanislo	Enf: Patrols	316/ 301		156	152	153	-3%	-2%
Roxhill	Control school	274/ 269	59	61	62	63	3%	5%

Table II-2: Parent Survey: Parents reported driving their student to and from school less in the fall of 2008 than in the spring of 2008, and more parents agreed that their school encourages walking.

	Mode Share								Agree that their school encourages walking		Response Rate
	To school by family vehicle*		From school by family vehicle		To School by Yellow Bus		To School by Walk or Bicycle				
	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	
Denny MS	38%	36%	21%	15%	33%	36%	17%	19%	14%	21%	>18%
West Seattle	35%	23%	31%	25%	43%	50%	18%	23%	28%	41%	>15%
Sanislo	72%	61%	65%	52%	14%	16%	11%	23%	51%	69%	>25%

[3] The impact of socioeconomic status is beyond the scope of this study. However, the evaluation tools showed that Sanislo, the Go! school with the highest average income, share of white students, and math test scores had the highest share of drivers and parents who felt encouraged to let their children walk to school. Sanislo did not perform better than the comparison schools in reducing car drop-offs.

Lessons Learned

The car counts, parent survey, and classroom poll suggest that congestion declined slightly during six months of the Go! program at all participating schools. These initial results indicate that a program that focuses on education and encouragement over a sustained period of time, in combination with traffic enforcement and improvements to pedestrian facilities, helps reduce car congestion. Additional evaluation will be conducted after the final components of the Safe Routes to School Program are completed. Based on the first phase of the project the school community made the changes they were most ready to make based on the conditions at the schools.

Replicating the Program

Go! is a comprehensive portfolio of education and encouragement activities, enforcement techniques, and engineering upgrades that could be replicated at any school that is committed to improving pedestrian and bicycle access. Identifying schools and motivated leaders within schools to take advantage of this toolkit, building a team, and pursuing funding are essential steps.

MT. VERNON WALK TO SCHOOL PROGRAM

Safe Routes to School as part of a healthy community initiative

Description

Skagit Valley Hospital administers a Healthy Communities grant from the Centers for Disease Control. This grant funded the Mt. Vernon Healthy Community Project (MVHCP) to plan and develop priorities for increasing health, nutrition and physical activity within the community. The MVHCP started a "Healthy School" pilot in fall 2005 to encourage physical activity outside of physical education classes. The pilot led to a Safe Routes to School grant application and the formation of a unique interagency walk to school committee to plan for the engineering, education and enforcement improvements funded by Safe Routes to School. The keystone of the Mt. Vernon program is a "hub and spoke" walking school bus, which was launched as a five-day pilot in 2006. In the "hub and spoke" walking school bus, parents can drop off their child at one of several walking school bus hubs ½ mile from school, or children can join the "bus" anywhere along the route and walk to school. The 'buses' are supplemented by sidewalk improvements, incentives, and pedestrian safety instruction in physical education classes. The project is continuing this year at all three elementary schools that started the program.

Figure II-4: Mt. Vernon Walking School Bus: Students depart "hub." [Credit: Skagit Valley Publishing Company]

Objective

Short Term: 10 percent increase in the number of children walking to schools from baseline numbers. Long Term: decrease in parents who drive their children to school. Overall goals: Increase physical activity for children leading to fewer overweight/ obese Americans.

Theory of Change

More children will walk to school—with the attendant benefits of increased physical exercise and reduced auto congestion around schools—if the fears of traffic and stranger danger and distance are addressed by a hub drop-off location and parent-supervised walking school buses. Creating a coalition of partners with aligned interests to address the issues that make walking to school feasible will create an effective program.

Implementation

Management

Skagit Valley Hospital and Liz McNett-Crowl, who manages the Mt. Vernon Healthy Communities Project, led walk to school efforts and put together the team that applied for the Safe Routes to School grant. The current advisory committee includes City of Mount Vernon Public Works Department, Police Department, Skagit Valley Hospital, Skagit Safe Kids, and the Mount Vernon School District..

Components

Figure II-5: Stop for Walkers: Sign created by the Safe Routes Program

The signature program is a walking school bus that uses a "hub and spoke" approach. The hubs are multiple staging areas, such as churches or parks, a half a mile from the school that are convenient places for families to drop off children. At the hub is a walking school bus volunteer who escorts the kids to school on a predetermined route, which picks up students along the way to school. The process is reversed at the end of the day. The program includes incentives such as t-shirts, promotions such as the high school marching band performing to welcome the bus to school, and pedestrian education in physical education classes. In 2008 year the walking school bus will be under way for the fourth year at Lincoln Elementary School and third year at Jefferson Elementary, and Little Mountain Elementary is planning its third year of participation. At Lincoln, the walking school bus happens one to three days a week on three routes, depending on the season, but the long-term plan is to expand it to five days a week. At Jefferson, the Walking School bus is being planned for Wednesdays, April through June, on two routes. Little Mountain school was planning a fall and spring, one day a week, two route walking school bus. The Mt. Vernon Safe Routes to School grant also included improvements in pedestrian facilities such as sidewalks, signage, police enforcement of vehicle speeds and crosswalks, and evaluation.

Research Questions and Methods

We sought answers to these questions:

- How have diverse institutional stakeholders, such as the city, hospital, police, and schools, come together to create and implement the program?
- What is the impact of the hub and spoke walking school bus model?

By using these methods:

- interviews with the Skagit Valley Hospital coordinator and the Safe Routes to School Advisory Committee
- analysis of data and Safe Routes to School program reports.

Results

The Mt. Vernon Safe Routes to School program had a strong institutional foundation in the MVHCP, a dedicated team of advisors, and a program that accommodated parents. This structure facilitated wide participation in the walking school bus and helped to shift parent attitudes toward their children walking to school.

Origins

The current initiative began as the result of the MVHCP Action Plan, which was adopted as part of Mt. Vernon's comprehensive plan. It includes a recommendation to increase opportunities for children to be physically active inside and outside of school. The school district worked with Ms. McNett-Crowl from Skagit Valley Hospital to gather the team they thought was necessary to apply for a Safe Routes to School Grant. Mt. Vernon is a small city (pop: 30,000) so the individuals on the advisory committee were familiar with each other as the project began. City officials, the police department and school district had relationships before the Safe Routes to School grant, but they were not directed at walk to school efforts.

Institutional Arrangement

The Healthy Communities Project piloted the first attempt at a walk to school program and aligned the leadership behind Healthy Communities' initiatives. Under this framework the Safe Routes to School advisory team was formed. A grant from The Safe Routes to School program funded the components explored in this report and the MVHCP continued to support the walk to school program.

Partnering for Success

Skagit Valley Hospital, through Ms. McNett-Crowl was central to the creation of the Mt. Vernon Walking School Bus. The hospital was able to contribute a large amount of staff time for planning because of the Mount Vernon Healthy Community Project—a Centers for Disease Control funded project. McNett-Crowl is on the State's Safe Routes to School Advisory Board and was part of developing the State's current program. One of the principal objectives of the MVHCP was to build community partnerships. The Healthy School pilot project, a part of the MVHCP, which launched the walking school bus, was created with the objective of creating life-long walkers by integrating exercise into everyday activity.

In addition to the MVHCP structure, partnership between agencies was a vital component of the effort. The Mt. Vernon Safe Routes to School advisory committee brings together Mount Vernon Public Works, Mount Vernon Police Department, Skagit Valley Hospital, and Mount Vernon School District administrators to address issues that hinder children from walking to school and actively promote the walking school bus. The creation of this task force in combination with the hospital's use of community health grants for the

purpose of encouraging walking to school are defining features of the Mt. Vernon's walk to school program.

The Mt. Vernon Safe Routes to School Advisory Committee reported that it was successful because the following components were in place:

- A convener: The hospital—staffed by a skilled champion and facilitator who is active in the State's Safe Routes to Schools program and the regional transportation advisory board. The importance of this facilitator is vital to the strength of the advisory council and the success of the walk to school program. The committee members stressed her role as passionate individual. They also pointed to the importance of having an assigned point person to track projects and stay in touch with advisory council members between meetings. Her connection with the larger Safe Routes to School network brought new ideas to the group, and she leads them through their initiative.
- A team approach: By bringing in partners early, the project reaped the knowledge and experience of diverse individuals and their agencies. The group listens and learns from each other and respects each other's roles. Each member is committed and dedicates time to the effort.
- Interdependence and jurisdictional alignment: The partnership of the advisory committee was natural because of the interdependence required for the project. For example, the school needs Public Works to make changes to the streets, and Public Works needs the Police to enforce new speed limits and so forth.
- Leadership buy-in: Discussions with the mayor and chief of police facilitated the advisory committee's proposals.

Accomplishments

- Each partner played a role in facilitating walk to school efforts and lent their respective expertise and resources to the project.
- Existence of an advisory committee: The advisory committee has served as a source of information sharing and a point of contact between agencies and organizations that did not exist prior to the walk to school committee. Additionally, the committee is laying a foundation for walk to school planning. A recent proposal to build a development included a large fence between the school and a neighboring residential area that would have discouraged walking. The committee came together to encourage changing this plan and is supporting pedestrian-oriented schools.

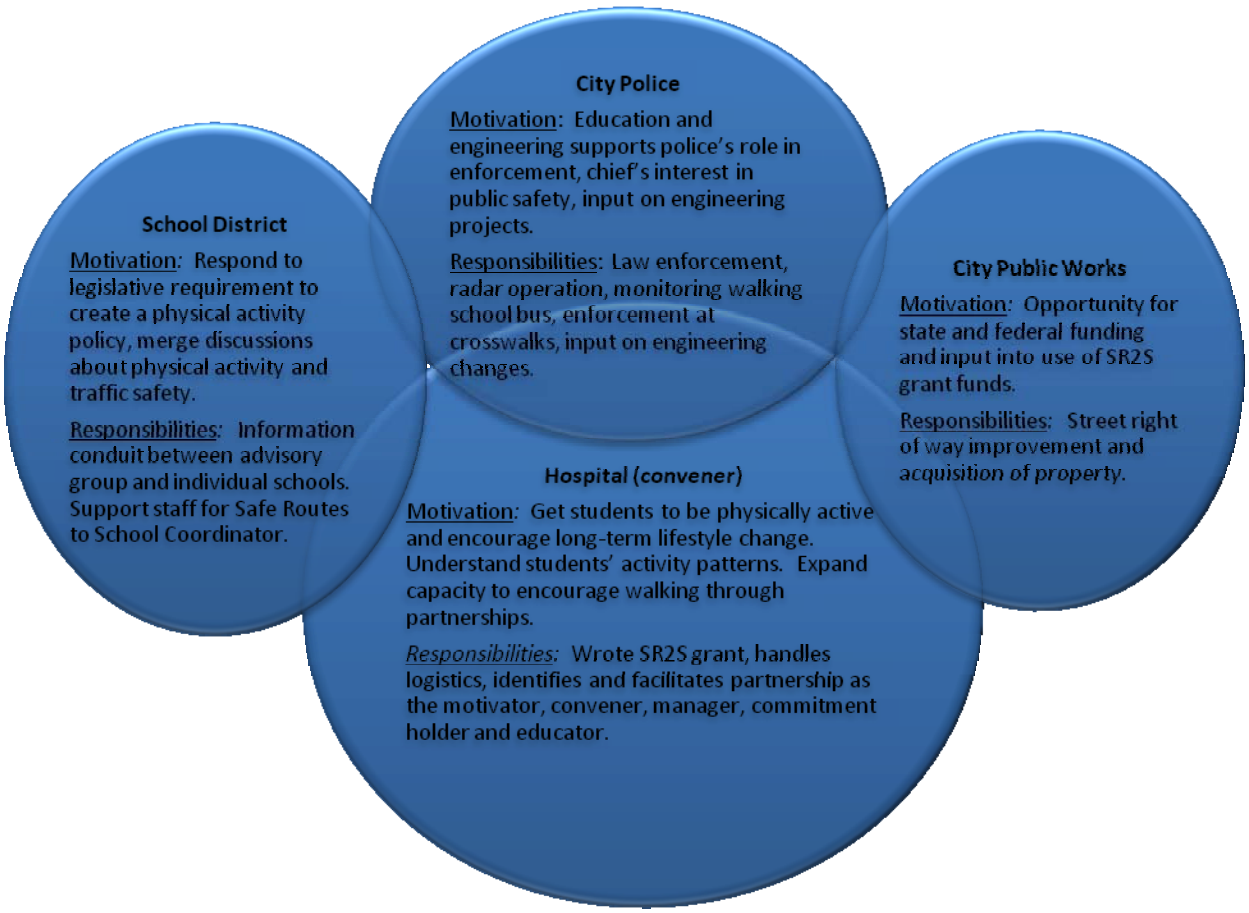

Figure II-6: Motivations and Responsibilities: Each member organization of the Mt. Vernon Safe Routes to School Advisory Committee participated for a different reason and brought its own expertise.

Behavior Change

The program far exceeded its target of a 10 percent increase in students walking to school at Lincoln Elementary. In fall 2006 Lincoln Elementary averaged 36 walkers per day, and in 2008 it averaged 71 walkers in the morning commute, a 50 percent increase based on classroom counts. An 8 percent increase in walkers was counted at Jefferson Elementary, but no pre- and post-data were available for Little Mountain Elementary.

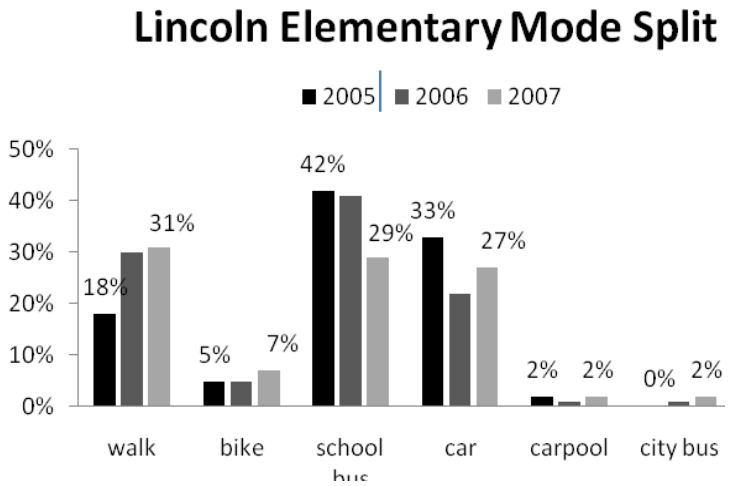

Figure II-7: Mode Split at Lincoln Elementary: Parents surveyed reported that their children were driven to school more in the baseline year 2005 than in subsequent years during which the walk to school initiative took place

Attitudes

The parent surveys also revealed that parents' attitudes about children walking to school changed during the project implementation. Before the project, parents were mostly wary of walking because of perceived inconvenience, lack of time and lack of desire, but after the intervention parents were more concerned about walking infrastructure, the speed of cars in their neighborhood, traffic, and crime.

This change indicates that the program was successful in getting parents over the initial hurdle of experimenting with walking and eliminating their initial concerns. Parents' secondary concerns about safety can be addressed with built environment changes, and with a committed group of parent advocates it is more likely that these concerns will be addressed. Among students, a survey at Lincoln Elementary School in Mount Vernon reported that 68 percent of students said they wanted to walk to school.

Lessons Learned

Walking and bicycling initiatives are advantaged if:

- Programs originate from an established community effort with existing structure and multiple sources of support.
- Congestion reduction can be tied to children's health.
- Multiple stakeholders can be brought together by a strong convener using a team approach that draws on overlapping interests.
- A walk to school model that provides stepping stones to transition from driving to walking, such as the hub and spokes approach, can draw wide participation.
- Actors external to the school can play a lead role in a walk to school program

Replicating the Program

While every community may not have a major public health initiative to generate and support walk to school efforts, in many cities some public health or environmental framework exists in which a walk to school campaign could seek support. The hub and spoke walking school bus is highly transferable to any community that might want to experiment with this tool.

PHANTOM LAKE ELEMENTARY PTA WALK TO SCHOOL PROGRAM

A volunteer led effort in a suburban neighborhood

Description

Phantom Lake Elementary is a suburban school serving an economically diverse student body (27 percent qualify for reduced lunches). Only one school bus serves the school, as most families live within 1 mile of the school. Phantom Lake was included in the City of Bellevue's Trips to School pilot program, a two year program started in 2005 that followed the family and school comprehensive model to reduce congestion around elementary schools. Elements of the program included information for parents, educational activities and events for students, walking school bus coordination, incentive programs, and assistance applying for grants. City staff designed and implemented the program with support from a parent volunteer from Phantom Lake -- the only school which participated with a volunteer coordinator. The Trips to School program was not refunded for the 2007-2008 school year; the City of Bellevue decided to shift funds to other programs. However, the Phantom Lake Parent Teacher Association (PTA) sought to continue walk to school efforts. A parent volunteered to lead the program and replicated a school-wide walk to school event with the City's assistance and held a weekly walk to school day.

Figure II-8: Satellite Photo of Phantom Lake Elementary: Phantom Lake is located in a suburban neighborhood with long curvy streets.

Objective

The Phantom Lake program sought to increase the number of students walking to school and reduce the number of car drop-offs and pick-ups at the school entrance.

Strategy for Change

A parent-led effort promoting walking to school can draw on parents' varied interests for their children to walk (health, environment, and neighborhood awareness) to increase the number of students walking to school and reduce auto traffic near school.

Implementation

During the 2007-2008 school year, Phantom Lake held a school-wide International Walk to School Day event and weekly "Walking Thursdays," which included crossing guards and announcements in the principal's bulletin. The parent volunteer for the Phantom Lake program also requested and received some police enforcement near the school. The PTA contemplated but did not carry out several programs, including a walking school bus, guest speakers at PTA meetings, and a parent survey on attitudes towards walking to school. The effort focused on a regular walk to school day with limited marketing of the program.

Management

- Led by a parent volunteer in charge of the Healthy Kids Committee with limited support from the city, school district, or other parent volunteers.

Components

- School-wide International Walk to School Day event, weekly "Walking Thursdays," and exploration of additional initiatives.

Research Questions and Methods

We sought answers to this question:

- How does a volunteer, parent-led program differ from a program managed by a nonprofit, school or government organization?

By using these methods:

- interviews with the volunteer
- a hands-up classroom mode choice survey.

Results

The volunteer-led Phantom Lake Elementary walk to school effort had no apparent impact on reducing auto traffic to school. Car arrivals are up 6 percent from observations of students counted being dropped off before the program in 2006 to a classroom poll in the spring of 2008.

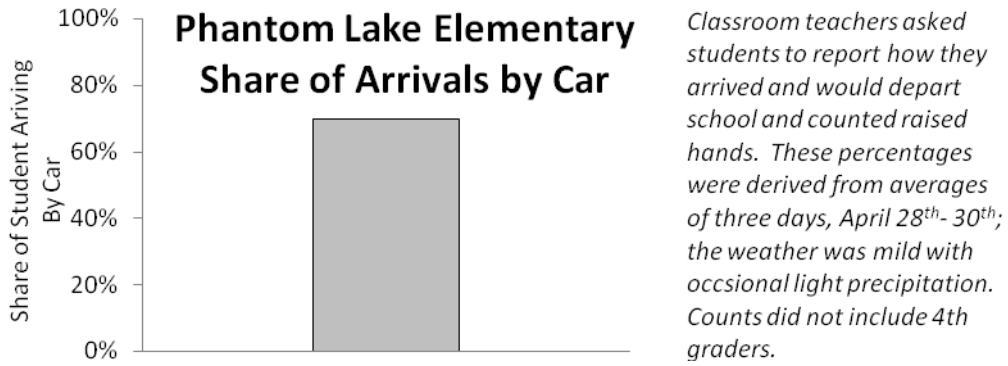

Figure II-9: Share of Arrivals by Car 2008

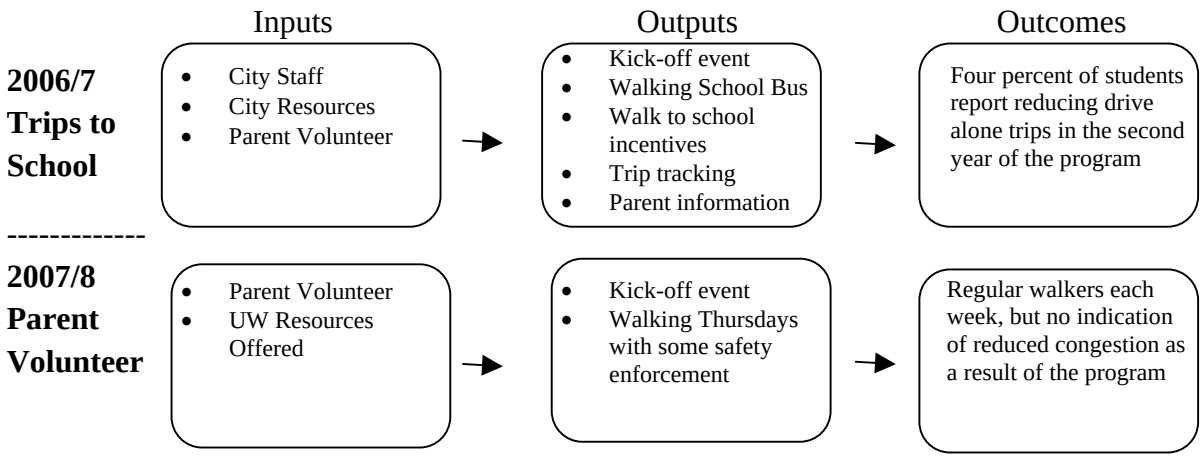

Figure II-10: Comparison of Phantom Lake Elementary Walk to School and Trips to School Efforts

The volunteer-led Phantom Lake Elementary walk to school effort was persistent and well-intentioned but minimal in content in comparison to the Trips to School Program from the previous year. The timeline below traces the course of the Phantom Lake effort in 2008.

Timeline of Activity - 2008

October: Kick-off walk to school event and launch of "Walking Thursdays"

February**:** After meeting with UW, potential plans included adding two components to the walk to school program: 1) possible walking school bus, 2) assembly about benefits of walking to school and conducting some form of evaluation, such as a) parent survey, b) visual count, or c) hands-up classroom survey.

April: Parent volunteer presented walking school bus proposal at PTA, received mixed interest and did not pursue it further to avoid patronizing busy parents. Volunteer reported soliciting and receiving police enforcement at roadway near school and considered requesting a crosswalk.

May: Parent volunteer completed hand- up survey with school assistance. UW tabulated data. Parent volunteer was curious about and disappointed with results and was interested in learning more potentially through a survey of parents.

Lessons Learned

This parent volunteer-led program was unable to reduce congestion. Principal constraints the program faced included the following:

Lack of Parent Buy-in: The parent volunteer hesitated to expand the walk to school program in deference to busy parents who didn't think the effort was that important and out of wariness of being patronizing.

Limited resources: While the PTA and school administration approved of the Program, there was limited human resources and financial support.

The Phantom Lake PTA program was able to maintain weekly walk to school days and produce an International Walk to School Day event. However, with limited resources and parent buy-in to expand the program it was unable to attract new participants or reduce car trips to school. While Phantom Lake was a leader among Bellevue schools in interest in a congestion the reduction program, without an institutional foundation it was dependent on a single parent. In the fall of 2008 the PTA leader reported new interest in the program and a pilot walking school bus on International Walk to School day.

While this volunteer-led effort found it challenging to create a robust program, the better funded and staffed predecessor Trips to School program achieved only minimal and temporary reductions in congestion. Therefore, a larger issue beyond implementation may be working in a built environment that encourages auto dependence and a parent population that does not perceive a need to reduce driving their children to school. However, there are reports of success in increasing walking at other Bellevue schools[4].

[4] WSDOT, City of Bellevue.

Replicating the Program

The small-scale Phantom Lake PTA program requires limited resources to replicate but also offers limited chances for success. The potential for effectiveness would likely increase with PTA, school administration, and municipal support, but larger change in parent attitudes and external conditions may be more important.

MOBILITY EDUCATION

Enlarging the scope of drivers ed

Description

Established in 2007, the Mobility Education Foundation (MEF) was created to broaden and deepen teenagers' awareness of transportation choices by supplementing driver education with training and information on walking, biking, and using transit. The Mobility Education Foundation curriculum emphasizes experiential learning; understanding the experience of walkers, bikers, and transit users; and giving teens immediate feedback on their decisions. In 2007 MEF offered supplemental curriculum for a Federal Way high school's regular driver education course. In the fall of 2008 MEF designed a one-day course for students *and* their parents in order to provide mobility education in the context of family relationships. The course was intended to provide information and experiential training in walking, cycling, and using transit.

Figure II-11: Mobility Education One-Day Course Logo.

Objectives

Provide students in driver education courses with a more complete menu of transportation options to reduce students' use of cars to commute to school and outside school. Demonstrate the integration of TDM (transportation demand management) incentives and skills into the context of mainstream, SOV-centric transportation education. Educate parents and youths in the context of the parent-child relationship and family values. Equip parents and youth to make decisions and explain economic, efficiency, and health basis for TDM-related actions, in addition to stating the safety benefits.

Strategy for Change

Providing students with education, perspective, and training and involving parents to create social reinforcement will encourage walking, biking, transit use, and safe driving in practice and attitude.

Implementation

Management

The nonprofit Mobility Education Foundation designed and developed the program and curriculum.

Funding

Funding to develop a one-day Mobility Education training came from WSDOT through this study.

Components

One-day experiential skills training

An 8-hour workshop was developed on the following:

- Multi-media introduction and basic communication and safety messages
- Bicycle skills
- Walkability/road safety audit
- Transit trip planning
- Teen mobility contracts
- New technology
- Evaluation

8:15 – 8:30	Registration & Refreshments
8:30 – 8:50	Pre-Quiz, Evaluation Base, Turning 16 Post-up
8:50 – 9:10	Introduction to Mob Squad
9:10 – 9:30	Mob•Squad Core
9:30 – 9:45	Basis for Contract "Issues of Concern Regarding Driving"
9:45 – 9:55	*10 minute break*
9:55 – 11:30	Experiential Module 1 – LAB Cycling Instruction
11:30 – 12:00	*Lunch break*
12:00 – 12:30	Module 1 - continued
12:30 – 1:30	Experiential Module 2 – Walkability/Road Safety Audit
1:30 – 2:00	Experiential Module 3 – Transit Trip Planning & Insider's Guide
2:00 – 2:15	Experiential Module 4 - New Technology
2:15 – 2:25	*10 minute break*
2:25 – 3:00	Mobility Squad Challenge – Integrating & Applying It
3:00 – 3:15	Teen Mobility Contracts
3:15 – 3:30	Review Concepts
3:30 – 3:45	Evaluations

Figure II-12: Mobility Education One-Day Course Agenda

Research Question and Methods

We sought answers to this question:

- How can students and their parents effectively be introduced to mobility education concepts?

By using these methods:

- funding for weekend and evening course.
- a *before* and *after* survey for participating students and parents.

Results

The Mobility Education Foundation was unable to implement the mobility training during the timeframe of this study.

Lessons Learned

Mobility education is a program to inform and train high school students in non-SOV transportation options. Further evaluation is necessary to determine how mobility education impacts congestion around schools.

Replicating the Program

With funding or a legislative mandate, mobility education could be easily replicated as either a supplement to driver education or as a separate weekend and parent night as it was piloted in the fall of 2008.

SEATTLE PUBLIC SCHOOLS HIGH SCHOOL TRANSIT PASS

Promoting transit as a car alternative

Description

Figure II-13: Awaiting Transit: Students wait for a Metro transit bus outside of a Seattle Public High School.

Seattle Public Schools began partial conversion to transit passes from yellow bus service in fall 2006. It partially implements findings from the *Way to Go* model pioneered at Roosevelt and Ballard high schools in 2000. Transit passes are now held by 18 percent of all Seattle school district high school students. One objective of the program is to provide mobility and flexibility before and after school, thus reducing students' need to use cars. To learn what impact the transit pass program was having on car drop-offs and car usage, we developed a survey with a high school teacher and student. This survey was distributed in spring 2008 at Chief Sealth High School (CSHS), which partially moved to transit passes in the fall of 2007 (but maintains some yellow bus service as well). About 20 percent of the student body—169 students—completed the questionnaire. CSHS is an urban school located in southwest Seattle and serves an economically diverse student body (60 percent qualify for reduced lunches). CSHS has a free parking lot with a few hundred free stalls in front of school and unrestricted on-street parking nearby. In a student survey, about 60 percent of students indicated that they live within 3 miles of school. Seattle Public Schools Transit Pass was selected as a program of interest because it addresses high school students and replicates the Way to Go and transit pass models identified in the Phase 1 report (see p. 31).

Objective

The objective of Seattle Public Schools' transition to Metro passes is to reduce the cost of transportation to the district and to provide transportation flexibility to students and start time flexibility to schools.

Strategy for Change

Metro passes increase transportation options for students. Transit service provides students mobility and flexibility before and after school, which will reduce their need for car travel.

Implementation

Seattle Public Schools provides transportation service for students who live more than 2.5 miles from school. Metro transit passes were purchased by the district and dispersed to schools undertaking yellow bus replacement to distribute monthly to students. Students who do not have adequate transit service to school or those with special needs are served by yellow buses. A student survey indicated that a fifth of the Chief Sealth High School student body picked up transit passes at school, and another fifth rode yellow buses at least one day per week in the 2007-2008 school year.

Management

The Seattle Public Schools transportation department administers every school's transportation program. Each school is responsible for distributing passes to eligible students.

Funding

Transit passes are funded by the state as part of the Seattle Public School District's pupil transportation allocation.

Components

At designated high schools, monthly transit passes are available for students who live at least 2.5 miles from school with adequate Metro service between their neighborhood and school.

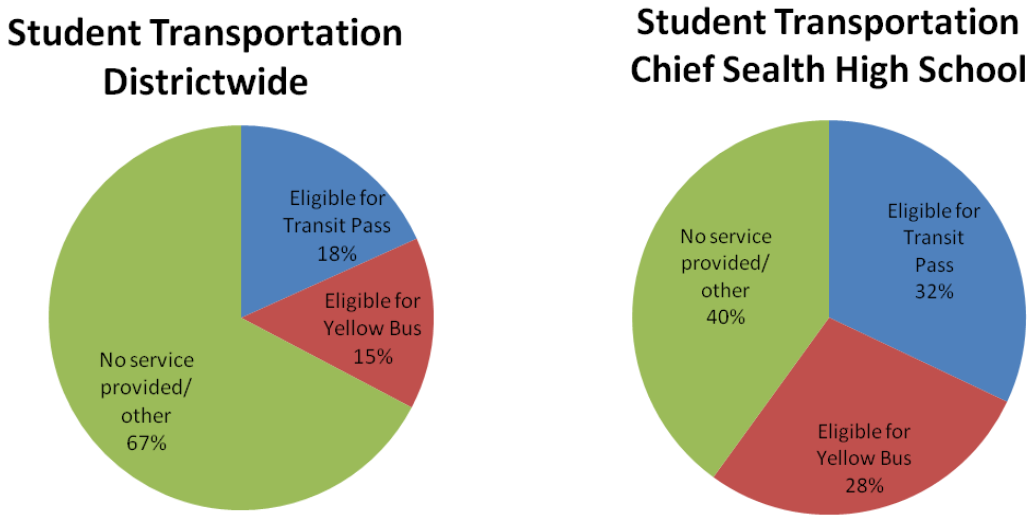

Figure II-14: Transportation Eligibility: CSHS has a higher share of Metro and yellow bus service than the total district.

Research Question and Methods

We sought answers to this question:

- Do transit passes, as a substitute for yellow bus service, change the likelihood of students' driving or getting rides to and from school?

By using these methods:

- A survey designed by UW researchers and implemented by students in math classes. The survey asked students about their mode choices and reasons for those choices in order to draw out comparisons between students with Metro passes this year who did not have them last year, and between students who ride Metro buses versus students who ride yellow buses.

Results

A survey of students at Chief Sealth High School showed that substituting Metro passes for yellow bus service provides flexibility that could reduce car use. However, students with transit passes did not use cars less than students with yellow bus service to get to and from school. It should be noted, however, that Chief Sealth School reflects a particular transportation context, and students at other schools may behave differently. Although the result was not statistically significant, students with transit passes did report fewer auto trips than students without passes (yellow bus students + students not eligible for transportation service).

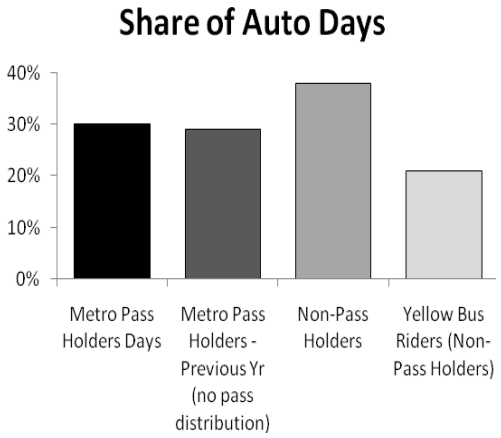

Figure II-15: CSHS Share of Auto Days: Metro passes did not discourage auto commuting in comparison to yellow bus service

Table II-3: Mode Split Comparison: The table below reflects the share of the all travel days that the use of each mode was reported. Share of travel days do not sum to 100% because non-motorized travel is not displayed in this comparison of transit, yellow bus, and car.

	Metro Pass Holders	Metro Pass Holders - Previous Yr (no pass distribution)	Non-Pass Holders	Yellow Bus Riders (Non-Pass Holders)
Drive	8%	7%	10%	5%
Drop-off Alone	13%	16%	15%	6%
Drop-off Carpool	10%	6%	13%	9%
Total Auto	**30%**	**29%**	**38%**	**21%**
Metro	51%	38%	21%	18%
Yellow	5%	24%	15%	49%

- *On the whole, there was no consensus among respondents that a Metro pass made them more or less likely to travel to and from school by car*. Of the students who agreed that having a pass reduced their tendency to commute by car, the ability to get places other than home on Metro was cited as an important factor. Those who didn't feel that the pass reduced their frequency of car commuting ranked the long travel time on Metro as an important factor.

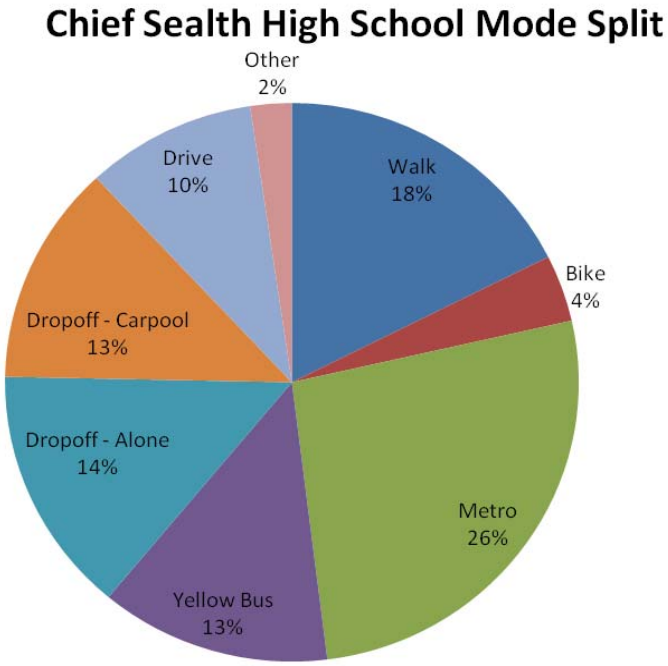

Figure II-16: Chief Sealth Mode Split: Nearly an equal share of Chief Sealth students surveyed travel to and from school by public transit as by car. The chart shows the share of days per week that each mode was reportedly used as a share of total travel days reported.

- *Students who received Metro passes used them for activities other than school*. For example, 53 percent of respondents reported using the pass for after school sports and clubs at least twice a week, and 37 percent reported using it every school day for these types of activities. About half of school-supported pass holders also used their pass to get to social activities in their neighborhood and other neighborhoods.

- *Many transit riders were not receiving support from school*. Of the 138 students surveyed who did not receive a transit pass from school, 40 percent reported using Metro to get to and from school at least one day a week, and 23 percent used transit at least three days per week.
- *Students who were not eligible for transportation support were contributing to congestion*. About 40 percent of Sealth students received neither a transit pass nor yellow bus service. Of student respondents indicating that they lived within 3 miles of school without a Metro pass, 43 percent of reported travel days were by car. Specifically, 17 percent of all travel days were parents dropping their student off alone; 19 percent of travel days for these students were by transit.

Further research is needed to determine whether other factors may have influenced this analysis. For instance, yellow buses and Metro pass holders are currently divided by

neighborhood, which may also represent a division of socio-economic status. Among yellow bus rider respondents, about one of six has a driver's or learners' permit, whereas among Metro pass holder respondents, approximately one in three holds one of these credentials. A permit or license is not only a sign the student's ability to drive but of their families' ownership of a car or multiple cars that could be used to transport a student.

Lessons Learned

- Our research at Chief Sealth High School demonstrated that converting student transportation from yellow buses to transit alone does not reduce auto use or drop-offs to school. Additional schools should be explored to confirm this finding. It suggests that without a deterrent to driving, such as pricing or restricting student parking in school parking lots and surrounding neighborhoods, providing transportation alternatives such as transit passes have limited impact on reducing car trips.
- Students living within 2.5 miles of school who do not receive transit passes or yellow bus service are contributing to congestion and spending their own money on transit, although their proximity to schools gives them multiple transportation choices, including walking and biking.
- Students want the benefits of transit passes and employ them in a variety of ways, which builds their transit experience and encourages a lifetime of transit ridership.

Replicating the Program

School districts seeking to convert from yellow buses to transit passes require an existing transit system with capacity and timing appropriate to meet school needs. The ability to manage parking in and around school grounds will enhance program effectiveness.

SCHOOLSHARE-RIDE/WALK SHARING WEBSITE

Social networking to *increase walking, biking, and ridesharing to school*

Description

SchoolShare is a pilot website for families living near each other to connect to one another for trip sharing. Developed by the organization Feet First, a walking advocacy organization, it originated as the idea of a parent at John Stanford Elementary School in Seattle and follows a ride-matching model pioneered in Contra Costa County, California (see p 39 in the Phase 1 report). SchoolShare provides each participating family with a list of other students' households by distance and a communication tool for contacting parents. It also has route mapping and trip diary features for students. SchoolShare was launched at Lawton elementary in Seattle at the end of the spring semester 2008 and is projected to launch at Broadview Elementary in the Oak Harbor School District on Whidbey Island in January 2009.

Figure II-17: SchoolShare Logo.

Objectives

Increase the number and frequency of students walking, biking, and carpooling to school. Reduce car traffic near schools and improve student health and safety

Strategy for Change

A one-stop trip-sharing website will improve parents' interest in and ability to coordinate walking, biking, and carpools, which will reduce congestion around school. The benefits of trip-sharing include safety and security for students, time and cost savings for parents, and community building among all parties.

Implementation

Management

Feet First developed and manages SchoolShare. They hired a contractor to build the SchoolShare website and work with individual schools and districts to increase the number of schools participating. Feet First staff load school directories onto the server and manage the data. Technical support is provided by a contractor.

Figure II-18: SchoolShare Icon: An icon changes as the user logs trips**.**

Funding

Funding to pursue this pilot project comes from the Washington State Center for Safe Routes to School, which

was awarded a federal Transportation Enhancement Grant by WSDOT.

Components

Parent Teacher Associations provide Feet First with families' street and email addresses to create a school database in the website. Parents are emailed an announcement of the program launch with their password and instructions for logging in. For each parent user the website displays an anonymous list of other families from their child's school in order of proximity. The user clicks on house listing to send an email and begin coordinating. The site also displays a map with home and school icons which is intended for students to use to map their walking and cycling route to school. The mapping tool has the ability to note special features along the way. Students can also use the site to track their trips, and an animal icon changes as the user reaches pre-determined numbers of trips.

Figure II-19: SchoolShare Homepage: SchoolShare has listings of families by proximity to the user, trip mapping, and travel logging features.

Research Questions and Methods

We sought to answer these questions:

- What is parent interest and acceptance of this new tool?
- How can the benefit from this website be maximized?
- How can SchoolShare be expanded to additional schools?

By using these methods:

- a focus group at Lawton Elementary, a neighborhood school in Seattle
- a report from the program coordinator
- UW researcher's input into site development.

Results

A trip-sharing website can address some of the complications of organizing and negotiating trip sharing. It provides an alternative point of interaction for neighboring parents who may not know each other. Barriers, particularly related to online security, remain.

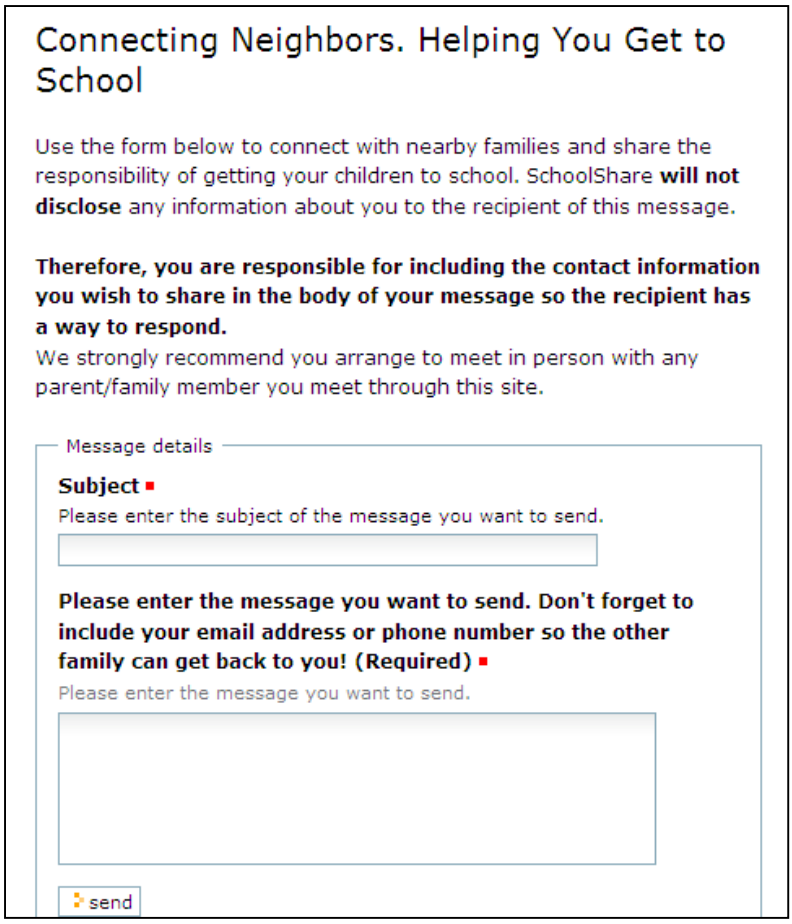

Figure II-20: When Parents Click on the List for a Family, They Are Able to Email Them through This Form.

Initial Focus Group[5]

In June of 2008, SchoolShare was made available to parents at Lawton Elementary school a few weeks before the end of the school year. In July, a focus group was held among Lawton parents, most of which had not used SchoolShare. Lawton Elementary is in a residential neighborhood and has a low incidence of reduced lunch, at around 16 percent. Focus group

[5] Feet First recruited and facilitated the group interview consistent with focus group methodology but led only one group. The social science of focus groups requires multiple sessions whose results begin to reinforce one another. Conducting only one focus group limits the ability to generalize from the responses.

parents had a high rate of Internet use, and Lawton Elementary has a strong walking school bus program.

Concept

Perhaps because of parents' previous experience with walking school buses, participants recognized the benefits of trip-sharing in saving time, relieving parents' responsibility, and providing flexibility. They also recognized barriers, such as inertia to change current habits, the burden of negotiating trip-sharing, their child's preferences, and security. A trip-sharing website may address some of the complexities of organizing and negotiating trip sharing. It may also provide an alternative point of interaction for neighboring parents who may not know each other because their children do not share the same age and gender, as contacts are typically student to student or student to parent, rather than parent to parent.

Parents felt that security was a principal issue for trip-sharing, particularly for an online tool. However, there was no consensus on a security level or how much information should be shared. There was a general preference for an opt-in system restricted only to parents of the same school, with parents deciding how much information about themselves they wanted to share.

Figure II-21: Walking School Bus Stop: Lawton parents are very familiar with and dedicated to their walking school bus.

Experience

After experimenting with the site, there was some confusion over whether the target user was the student or the parent, and participants recommended that it be better defined. Participants took issue with the communication mechanism, some disliked the anonymity, both as a sender and potential receiver, although some also preferred being unknown. While most parents seemed to be able to use the email function, there was a general desire for improvement. There was also an interest in developing user profiles with more variables, and sharing of those variables upon user approval to enhance the value and facilitate trip-sharing.

Impact

There were mixed results on how and for what purpose parents would use the site once the school year began. Some indicated that they would use it only once or twice to find

new parents at the start of the school year. Parents new to the school thought it might be particularly useful. The existing walking school bus program at Lawton Elementary may make it difficult to draw conclusions from this focus group, as parents compared their interest in SchoolShare to that in the current program. However, there was interest in a tool that informs families of nearby student households and facilitates communication for transportation.

Implementing a Trip-Sharing Website

On the basis of her experience from the spring of 2008, the staff coordinator of SchoolShare identified several components for successfully implementing a school trip-match website and potential for expansion.

Factors of Success

- Identify a champion in the school community: An insider with a strong interest in the program can advocate and make the necessary connections to move forward in a fashion appropriate to the culture of the school. It may be the physical education teacher, a PTA leader, the principal, or someone outside the school involved in transportation or public health.
- Broad outreach: Find parent, staff, and government contacts to get buy-in from multiple stakeholders. Identify how parents communicate among themselves and how the school communicates with parents to market the program. Engage the school's front office staff.
- Start early: It takes a long time to gain acceptance from administrators and parents and to get enough visibility to make the site useful.
- Provide security: Address parent concerns with online information sharing.

Potential for Expansion

Agency: FeetFirst is creating a strategic plan for the future of SchoolShare. Funding ends in December 2008, and opportunities for additional funding are being explored. The plan will incorporate the following in considering expansion:

Timing

- The time required to integrate a school into SchoolShare varies with the culture of the school. Generally eight months should be allowed from first contact to full launch.

Candidate Schools

- Medium or large schools where parents might not know each other well.
- Schools with existing interest in pedestrian safety or experience with Safe Routes to Schools programs.

- Schools with high computer literacy, which tend to be schools with a higher socio-economic study body.

Resources Needed

- A project coordinator to act as liaison to public schools (.25 FTE).
- Ongoing Web hosting and technical support to manage and update the site.
- A data management system for accounts and school information.
- Marketing and outreach to candidate schools.

Ongoing Challenges

- Parents' fears about safety.
- Systems for accessing/including and updating student data.

Lessons Learned

General

- Trip-sharing can provide benefits that parents' value.
- Proximate families of the same school do not always know each other or their transportation behaviors.
- Even at a school with a highly developed walking school bus program there is an opportunity to improve and facilitate trip-sharing.

Specific to a Trip-Sharing Website

- SchoolShare's purpose should be clearly defined.
- The mechanism of communication between users must be easy and transparent.
- Users should define what they want to share.

Moving Forward

- Continuation of the SchoolShare pilot will require significant response to parent input and refining the site, as well as outreach and promotion.

SchoolShare is still in its pilot stage. Additional testing and focus groups are necessary to determine the optimal content and format for the tool. Once a full version is launched, it can be assessed for its impact on reducing congestion at schools. Legal and timing challenges related to public sharing of school directories and technical challenges have slowed the launch of SchoolShare, but these barriers are being overcome.

Replicating the Program

Schoolshare was designed to be available to any school in the state. Integrating a new school involves uploading its directory and emailing families, which is done by the Feet First program coordinator. Home Internet availability, systems maintenance, and concerns about Internet safety and sharing school directories are barriers depending on the school.

SCHOOLS IN GTEC—THURSTON REGIONAL PLANNING COUNCIL

Including schools in a Growth and Transportation Efficiency Center

Description

The Washington State Legislature created the Growth and Transportation Efficiency Center (GTEC) program in 2006 to help expand the state's existing demand management strategies, such as Commute Trip Reduction, to small employers and residents, as well as to non-commute trip purposes. Jurisdictions containing dense urban centers are encouraged to designate their centers as a GTEC and aggressively target new populations with outreach and services. The program concept is designed as a customizable umbrella approach under which jurisdictions set and monitor drive-alone trip reduction goals, establish partnerships, and prioritize land-use and transportation services, policies, and infrastructure investments. These efforts are intended to improve transportation efficiency within and adjacent to GTEC boundaries. GTEC reinforces the objectives of the state's Growth Management Act, which seeks to encourage development in urban areas and encourage efficient multimodal transportation systems.

Figure II-22: Growth and Transportation Efficiency Center 2007-2009. This map shows existing and voluntary GTEC programs.

Olympia's GTEC is called the *Downtown Commuter* program, which is focused on reducing trips in the downtown and Capitol areas. Two schools are located within Olympia's GTEC boundaries but were not explicitly integrated into the city's initial GTEC program plan or the grant funding from WSDOT to implement the plan. This study provided funds to the Thurston Regional Planning Council (TRPC) to explore how

to incorporate schools into a GTEC program. This project was chosen to explore how school trip reduction could be linked to the GTEC program. The TRPC has been interested in addressing trips to school since the issue was originally raised by local policy makers during the discussion over the Growth Management Act in 1990.

Objectives

Build a generation of safe and healthy walkers, bicyclists, and bus riders, reduce congestion; demonstrate the steps to develop sustainable programs in schools and the barriers, opportunities, and partnerships necessary for success.

Strategy for Change

Complement and capitalize on GTEC status and programming by creating a school trip reduction program that articulates clear goals, uses expert advice, and is responsive to parents, students, and school staff. Create and implement the program through school and community partnerships. Continually measure, evaluate, and improve the program.

Implementation

Research for this program began in spring 2008, and initial programming began at the start of the 2008 school year.

Management

The Thurston Regional Planning Council (TRPC), the City of Olympia Public Works Department, and Intercity Transit are all partners in the GTEC grant and also form the committee responsible for implementing this school strategy. The TRPC took the lead in researching and designing the program, then created a partnership with the schools and the nonprofit organization Safe Kids Worldwide to provide resources and implement demonstration projects. At Madison Elementary, the primary demonstration school, the principal assigned AmeriCorps volunteers as in-school program coordinators. Intercity Transit contributed through its youth education outreach program, and the city through the E3 Encouragement, Education, Enforcement Program (Olympia bike and pedestrian program).

Funding

Initial funding for this study was provided by WSDOT. Additionally, TRPC acquired funding from the Washington State Department of Health, through its Active Community Environment program.

Components

Research

TRPC staff met with stakeholders from the school district, school administrators, teachers, and the neighborhood association to identify leaders and partners, gather

information, and develop program ideas. The TRPC also facilitated a group interview and conducted a survey with Madison Elementary parents, both to gather information and to make contact with potential advocates. It also tracked relevant transportation policies discussions in the school board and the city.

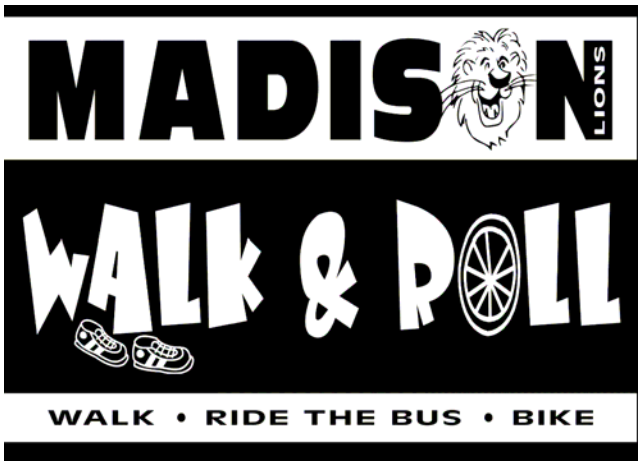

Figure II-23: Madison Walk & Roll Logo: Walk and Roll was a demonstration project launched at a school within the Olympia GTEC.

School Programming

Branded the "Walk and Roll," the fall 2008 demonstration program concentrated on education and encouragement while also identifying needed engineering improvements. Major initiatives included providing information during a parent open house, and coordinating the International Walk to School day. The open house provided the opportunity to distribute customized information on pedestrian safety and transit, as well as ideas and encouragement for trip reduction around schools. Parents were also recruited to form walking school buses and to participate in future focus groups. During the International Walk to School Day, students were provided t-shirts and awarded medallions for walking to school. Walk events were incorporated into the school day, and civic leaders and the media were present for encouragement. Other activities included the following:

- November Walking and Wheeling Wednesdays, during which students were encouraged to walk, bike, or use the bus and keep track of the way they arrived at school.
- Crossing guard safety training.
- A plan for a 5th grade student club that will focus on safe pedestrian skills and the benefits of physical activity and then teach these to younger students.
- Continuing monthly encouragement activities, program development, and evaluation, including parent focus groups and discussions with partners.

Figure II-24: Awards Table: During International Walk to School Day students who walked were awarded medals.

Upcoming activities include distributing bus passes and customized transit guides to students and parents to help them learn about the transit system over the holiday break and encourage trips to places parents identified as likely destinations for student bus trips.

Planning

The TRPC continues to pursue additional grants for physical improvements and programming for the demonstration project. Once grant funds are secured, the school district and city partners are ready to work together to complete the improvements to a mid-block crosswalk in front of Madison Elementary, where students frequently cross without protection. The Washington State Department of Health *Active Community Environment* program is providing funds to the TRPC to continue its work with schools.

Beyond the demonstration project, the TRPC has discussed the issue of school siting and potential cuts to yellow bus service with the Olympia School District. The TRPC also sees the school program as an opportunity to demonstrate the need for supportive programs that reduce car use by siting schools near transit and pedestrian facilities.

Research Questions and Methods

We sought answers to these questions:

- What are best practices for determining how Commute Trip Reduction can involve schools in GTEC areas?
- How can different institutions work together to achieve results in the demonstration schools?

By using these methods:

- providing funding for the TRPC to incorporate schools into the GTEC Drive Less-Live More program
- documenting the TRPC experience in the form of a how-to manual
- conducting interviews with TRPC staff.

Figure II-25: Madison Elementary Walkers. Walk and Roll t-shirts are worn on Walking and Wheeling Wednesdays.

Results

The TRPC's approach to incorporating schools into the GTEC was to facilitate a school-based trip reduction program by providing resources and creating partnerships between existing groups with an interest in trips to school for congestion, safety, or health reasons. The link between the school program and the Olympia *Downtown Commuter* program was primarily the recognition of similar goals and

the opportunity to leverage efforts, information, and incentives to encourage trip reduction and safety, as well as infrastructure improvements in the GTEC. The schools program benefitted from findings that emerged from the Community Based Social Marketing Reports and the December "*Go By Bus*" Adventure Challenge, which were both funded via the GTEC program.

Regarding best practices, the TRPC showed how an external organization can create a school-based trip reduction program by using GTEC status as a motivation for action. To do so it conducted broad outreach and relationship building with teachers, administrators, parents, and partner organizations that led to the successful launch of "Walk and Roll." The TRPC outreach to the high school in GTEC was less successful, though discussions are taking place now to expand the project concepts to the high school.

Challenges included the following:

- developing a relationship with the school district, school administration, teachers, and parents
- identifying barriers and then shaping a program to address these
- building programs and activities in—and with—schools without adding more tasks to already overburdened administrators, teachers, and parents.

Opportunities included the following:

- offering students positive learning experiences—safe pedestrian, biking and transit use opportunities and independent mobility skills
- increasing student health, social connections, and readiness to learn
- influencing parent driving habits and safety awareness
- identifying the importance of infrastructure and school siting to decrease student travel via private automobile
- demonstrating environmental stewardship and leadership.

The "Walk and Roll" International Walk to School Day event was effective at encouraging parents to try an alternative to the car.

Table II-4: Madison Elementary Mode Share: The "Walk and Roll" Event reduced car use by 40 percent that day.

	Walk / Bike	Yellow Bus	Transit	Car	TOTAL
Baseline	35	29	1	65	130
Walk and Roll Event	65	40	0	37	142

Anecdotally, the principal reported that eight to ten bikes are regularly parked in the rack this winter, whereas last year there were one or none at all.

Lessons Learned

While the TRPC recognized the benefits of aligning the school trip reduction program with the GTEC program and used findings from GTEC community-based marketing, it has not yet found innovative ways to capitalize on the GTEC beyond the benefits that are inherent in being located in an area with well developed transportation facilities. Rather, the TRPC has focused on encouraging students to take advantage of those facilities and leveraging an interest in trip reduction from GTEC to create school-based programs. To do so the TRPC developed collaborative partnerships with school staff and families, nonprofit organizations, the City GTEC and Bicycle/Pedestrian Program, and the transit agency.

Replicating the Program

The best practices being developed by the TRPC can be applied in any GTEC, or other areas where demand management strategies are desirable. However, its principal finding thus far—to develop strong relationships—may be easiest to achieve in small or medium sized communities.

WHIDBEY ISLAND SCHOOL DISTRICTS/ISLAND TRANSIT

Maximizing transit potential in rural areas

Description

As part of the School Transportation Demand Strategies study, researchers conducted eleven focus groups in the South Whidbey and Coupeville school districts on Whidbey Island to understand the reasons underlying parents' and older students' decisions about getting to and from school. The purpose of these focus groups was to uncover the motivations behind the transportation decisions that parents and students were making about getting to and from school. Ultimately, researchers wanted to understand why people make the decisions they do and what would motivate them to make different transportation decisions.

These two Whidbey Island school districts were chosen for two reasons.

1) Whidbey Island is home to Island Transit, a unique public transportation system that is 'fare free' and funded through a portion of sales tax on the island. Researchers wanted to understand the choices that parents and students make in the context of the existence of this transportation alternative. Do students use Island Transit to get to and from school? Why or why not?

Figure II-26: Island Transit and Ferry: On a long, narrow island, Whidbey school districts have unique transportation challenges and opportunities.

2) Urban school districts often have a series of tools at their disposal to encourage modes other than driving to and from school. Schools are often located within neighborhoods, and, if that is the case, are relatively easy to access by walking or cycling. For children who cannot or choose not to walk or bike to school, public transportation and the yellow school bus are relatively easy alternatives. In rural school districts, however, the schools are often relatively far from neighborhood centers, and the distances involved are much greater, making any alternative mode of transportation more problematic. Because so many of Washington state's school districts are in rural areas, understanding the barriers to using alternative modes of transportation that parents and students in rural school districts face will be important in designing any effective policy or program solutions.

Objective

Gain a better understanding of the issues, barriers, and motivations that high school students and parents of elementary and middle school students factor into their school

commuting decisions, and communicate findings to school and transit district officials to aid them in developing effective Commute Trip Reduction strategies.

Strategy for Change

A thorough understanding of why students and parents choose the modes that they do to get to and from school, and of the barriers they face in choosing to not drive, will lead to better, more useful Commute Trip Reduction strategies.

Implementation

Management

The focus groups were organized in close cooperation with the Coupeville and South Whidbey school districts and Island Transit. During the organization of these groups, researchers also built relationships with Island County and WSU Extension employees who are tasked with reducing carbon emissions in their communities. The final report will be made available to each of these entities so that, by understanding the barriers to choosing alternate modes of transportation, they can come up with effective solutions to overcoming those barriers.

Funding

WSDOT provided funding for the UW research team to carry out focus groups.

Components

Eleven focus groups were conducted with teens and parents of middle and elementary school students in the Coupeville and South Whidbey Island school districts. In each school district, one focus group was conducted with parents of middle school students and another was conducted with parents of elementary school students, for a total of four parent focus groups. Because high school students are more involved in making their transportation decisions, researchers hosted a series of seven focus groups with high school students in both Coupeville (three underclassmen groups and one upperclassmen group) and South Whidbey (one underclassmen group, one upperclassmen group, and one mixed group).

Research Questions and Methods

We sought to answer these questions:

- What are the barriers that parents and students face that keep them from using alternative modes of transportation to and from school?
- Why do some parents and students choose to drive?
- What decisions do parents and students make in a context that includes a fare free transit system?

By using this method:

- focus groups with parents of elementary and middle school students and with high school students.

Focus groups were chosen because of the level of insight that they offer into the motivations of individuals and groups. Focus groups are a particularly good tool for understanding the context and depth of an issue because they allow for a dynamic exchange of information among participants, and between participants and the researchers. "Focus groups are fundamentally a way of listening to people and learning from them" (Morgan, 1998). Focus groups are not statistical surveys, and the conclusions that emerge cannot be said to be statistically valid for an entire population. However, as stated above, focus groups can be extraordinarily useful in gaining insight and understanding of an issue.

In all of the parent focus groups, participants were diverse with respect to transportation mode, travel distance to and from school, and work status. They were not, however, diverse in terms of ethnicity or gender. Nearly all of the participants were white, and with the exception of four out of 28 participants, they were all female, perhaps because of the tendency of mothers to be primarily responsible for making decisions regarding their children's welfare. The researchers did not inquire about income status.

The student groups were slightly more diverse in terms of ethnicity, and perhaps more representative of the student population as a whole. In all, researchers spoke to about 50 students each in the Coupeville and South Whidbey high schools.

In the focus groups, participants were asked how they got to and from school and why, as well as about their impressions of the most common modes of transportation: the school bus, Island Transit, carpooling, walking or biking, and driving.

Results

The following are the major findings from the focus group sessions, organized by transportation mode.

Driving

In the parent focus groups, driving was the most used form of transportation for getting children to and from school, even among parents who would have preferred, in principle, to use an alternative mode of transportation.

Table II-5: Advantages, Disadvantages and Opportunities by Mode: In the focus groups, each mode choice's costs and benefits were considered, which led to potential opportunities.

	Driving	School bus	Transit	Carpooling	Walk/Bike
Advantages; parent groups	-Fast -Time alone with child	-Reliable -Safe	-Free -Flexible -More adult supervision	-Get to know children's friends -Fast	-Exercise - Good for environment
Advantages; high school groups	-Allows more sleep -Flexibility -Cool factor - Acts as a storage space	-Reliable -Convenient -Free	-Free -Flexible	-Same advantages as driving, with more social	-Exercise -Good for environment -Free
Disadvantages	-High gas prices -Bad for environment	-Travel time -Not flexible -"Loser Cruiser"	-Viewed as unsafe, Schedules not coordinated with school start, end ---Schedules change during school year	-Difficult to coordinate	-Slower -Viewed as unsafe -Difficult to carry 'gear,' -Get to school wet/ tired / dirty -Lack of bike storage
Opportunities	Start middle and high school day later to give more time for alternate modes, increase or implement parking fees at high schools and surroundings	Shorten length of bus ride by creating neighborhood "pick-up spots"	Educate school communities about safety features, coordinate schedules with school start and end times, better communication of schedule changes, or do not change schedules during school year.	Schools could help parents and students coordinate carpools via websites, newsletters, or other means	Start middle and high school day later to give more time for alternative modes, create safe connections from neighborhoods to schools, have more prominently placed bike racks

Advantages

Driving was described as being much faster than alternative modes, allowing for more sleep in the morning and for more time to do after school activities or simply more time to be together as a family in the afternoons. Participants also liked the quiet time that driving their children to and/ or from school gave them. A few parents noted that some people would probably continue to drive regardless of improvements to alternative modes simply because they did not view it as an extra trip, if, for example, they worked close by or the school was more or less on the way to work.

For the high school participants, driving offered many advantages over the other modes of getting to and from school. In addition to being faster and therefore allowing more time in the morning to sleep or to get ready, coming to school by car made it easier to get to and from an after school job in a timely manner, or to participate in after school sports, or simply to wait to decide how to spend the afternoon. The car was described as reliable and much more comfortable than other modes of getting to and from school. Students equated having a car with a having a sense of freedom and flexibility, whereas taking the bus and/or Island Transit required being tied to someone else's schedule.

Students also liked the sense of control over their environment that driving affords. This sense of control ranged from having the ability to leave school or home when they liked, to going off campus for lunch and being back for afternoon classes, to being able to regulate the heat and choose the kind of music on the radio.

One unexpected finding was that many students in both South Whidbey and Coupeville high schools described the car as a useful place to transport and store band, sports, or other equipment, and cited that as a reason to choose driving over other modes. As described above, students who participate in these extracurricular activities often have quite a bit of accompanying 'gear' that may or may not fit in their lockers. Students who drove reported using the car as a sort of second locker for the bulkier items.

Opportunities

While it is difficult to overcome some of the advantages of driving, students and parents suggested that a later start time for the middle and high schools would allow additional time for all alternative modes of transportation and might make them more attractive. In addition, implementing or increasing parking fees at the high schools and surrounding lots might discourage driving, or at least driving alone.

School Bus

Barriers

For all groups, the biggest obstacle to using the bus more often or as a primary form of transport to and from school was the length of time the kids would have to be on the bus. Most parents and students who objected to the bus had rides of 45 minutes or longer. Parents of very young children said "that's just too long for them to be on the bus." For parents of elementary school children, the long bus rides home cut into afternoon downtime, time for homework, time for after school activities, or simply time to be together as a family. For parents of middle school children, the lengthy bus ride was an issue chiefly in the morning. Several parents stressed that while they would like to be more regular users of the bus, they simply did not want their children to have to wake up at the time they would have to in order to be ready for the bus.

For high school students, the early start time—7:30 AM for South Whidbey students and 8:00 AM for Coupeville students —made all alternative modes of transportation to school, including the school bus, less attractive than either driving or carpooling with friends and family. The presence of younger children (6th, 7th and 8th graders, as well as underclassmen) was a source of irritation, as was the fact that many of the buses were crowded. In addition, the size of the seats seemed more suited to younger passengers. In general, high school participants saw the bus as 'uncool' ("loser cruiser" was the term several of them used), and other modes of transport to and from school were preferred.

That being said, many underclassmen in the groups did use the bus, although they expressed a desire to switch to a different mode, usually driving or carpooling, as soon as possible.

Advantages

Parents and high school students generally appreciated the availability and reliability of the yellow school bus. Both students and parents reported building relationships with the drivers over a period of years. This consistency was definitely seen as a plus by parents, who felt very comfortable that their children were in good hands when they were on the bus. “I know that when I put them on the bus, they are going to get to school,” was a sentiment expressed several times.

In South Whidbey, parents also appreciated the way the school district facilitated the use of school buses to get kids to after school activities. If several children were going from the school to a certain activity, say, dance lessons, the school district would provide a safe bus stop at the activity location. For many district parents, this saved them an additional trip to the school in the afternoon.

Opportunities

By far the most common suggestion to get more people to ride the school bus was to reduce the amount of time that kids had to be on the bus. One way to do this mentioned by South Whidbey Middle School and Elementary School parents was to create neighborhood “pick-up points” or PUPS. Currently, buses in the South Whidbey School District do, essentially, driveway pick-ups. That is, they stop at every house where there are children who ride the bus. Instead, it was suggested that in many neighborhoods it would be possible to organize a central pick up location to which parents could drive, walk, or bike their children. Instead of loading one or two children at each stop, the bus would load ten or more kids. This is apparently an idea that the district is already considering. If it does, the Mount Vernon School District Hub and Spoke Walking School Bus Program might offer a model from which to draw.

Other than the length of the bus ride, parents seemed to feel very positively about the school bus, the drivers, and the district transportation staffs.

Island Transit

South Whidbey middle school and elementary school parents in the focus groups were generally positive, and even enthusiastic, about Island Transit, while Coupeville parents were more reserved. The level of enthusiasm seemed to be related to familiarity; parents who used Island Transit, or who had kids who used Island Transit, seemed to be much more positive about the program.

Advantages

Parents and high school students all knew and liked that Island Transit is free. They also appreciated its availability and the flexibility it afforded them. Some parents felt their children were better supervised on Island Transit than on the school bus because of the presence of so many more adults. High School students reported that underclassmen were the group most likely to use Island Transit, until either they or a friend or family member was able to drive. The highest demand for Island Transit among high schoolers was after school. In general, Island Transit was viewed more positively than the school bus

Barriers

Barriers to using Island Transit fall into two categories, perception problems and practical problems.

Perception Problems

The perception that Island Transit is not safe presents a psychological barrier to using public transportation to get to and from school. The factors that enter into this perceived lack of safety range from the fact that the bus stops are exposed, often on the side of busy roads, and with few shelters, to the notion that anyone, including perhaps predators and other people who should not be in close contact with children, can ride Island Transit. High school students in every group in both districts described 'creepy' passengers whose presence was a deterrent to using Island Transit more often. These fears were expressed frequently, but most often by parents who did not have much direct personal experience with Island Transit. Nevertheless, it appears that these perceptions are common among parents of school aged children and that addressing them would lead more parents to use Island Transit to get their children to and from school.

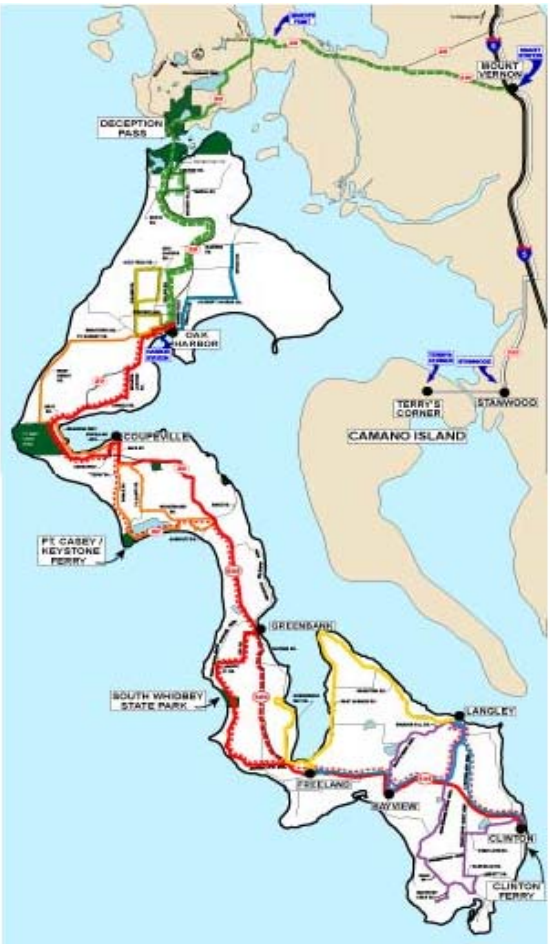

Figure II-27: Island Transit Route Map

Also related to this is the perception that Island Transit is not supervised enough —that kids could get on and not arrive at school for whatever reason. However, parents who did use Island Transit noted that they were impressed with the relationship that the drivers seemed to have with the kids who rode regularly. These parents disputed the idea that the

children were not supervised or in good hands. One father who frequently rode Island Transit expressed his feeling that kids on his bus are in fact MORE supervised because of the presence of so many adults.

Practical Problems

The biggest practical obstacle parents mentioned that prevented them from using Island Transit to get their children to school was the fact that the schedules were not coordinated well with the school start and end times. Several parents mentioned using Island Transit to get their children to either before or after school activities, although there was some hesitation because "Island Transit operates on Island Time." In other words, the bus scheduled for 2:50, for example, might come at 2:40, or at 3:00. One parent mentioned emphasizing to the bus driver that he consistently arrive on time so that her daughter could get to her after school activity.

Figure II-28: Island Transit Vehicle

An additional, related obstacle was the tendency of Island Transit to change the schedules in the middle of the school year. "We would use Island Transit, but we never know when they will change their schedules," is how one middle school parent put it. This perceived lack of consistency was very unattractive to some parents.

For high school students, the biggest obstacle to using Island Transit to get to school is the early start time. Using Island Transit requires students to be up and ready much earlier than they would have to be if they drove or got a ride. Students in both Coupeville and South Whidbey also expressed some frustration that Island Transit stops running so early in the day. The early end to the day means that Island Transit works less well for students who need to get home after work, sports, or other after school activities.

<u>Opportunities</u>

Suggestions for increasing the use of Island Transit to get to and from school included the following:

- More frequent runs
- Better coordination with school start and end times and after school activities
- More stops (some students reported having to walk for a half a mile or more to reach an Island Transit stop)
- More consistency
- A partnership with the school to increase familiarity with using Island Transit
    - Perhaps a sponsored event in which students would go on a 'scavenger hunt,' requiring them to use several different routes to go a couple of different

directions, so that they could become more comfortable with reading route maps and schedules and know on which side of the street to catch the bus going in the right direction.

- Outreach to parents school-wide regarding safety, schedule, and route information, as well as procedures for ensuring that children reach their destination, and for discouraging the use of Island Transit to skip school.

Carpooling

Advantages

Carpooling was seen very positively among middle school parents and high school students in the focus groups, while the parents in one of the elementary school groups were less enthusiastic. For the middle school parents, carpooling is a way to get to know their child's group of friends, as well as being more convenient and efficient than driving alone. For high school students, carpooling is a way to get to school that has most of the benefits of driving, with the addition of a social aspect. All of the groups, middle and elementary school parents and high school under and upperclassmen, reported that coordinating a carpool was easier for those who lived in neighborhoods or close to others who had similar before or after school schedules.

Barriers

For elementary school parents, the difficulty of coordinating carpools was hard to overcome. In addition, elementary school parents were likely to have kids who required some sort of booster seat, which made taking other children in the car more difficult logistically and in terms of space.

A barrier to carpooling for high school students mentioned in all but the two upperclassmen groups was the legal restrictions that prevent new drivers from having unrelated underage passengers in their cars for the first six months after they get their license. While that legal restriction has been shown to reduce the number of accidents involving new drivers, it also delays the carpool option.

Opportunities

The most common suggestion for increasing carpooling at all levels was some system to make it easier to coordinate with other parents, for elementary and middle school children, or other students, for high school students. Each of the groups toyed with different ways of accomplishing this. Some of the ideas mentioned were carpool sign-up sheets organized around neighborhoods or after school activities, an on-line social networking tool, maybe linked to the school website, and a place on the school website where parents or students could post requests for carpool participants. (Note that

SchoolShare is being tested in the Oak Harbor School District on northern Whidbey Island; this school district chose not to participate in the UW-led focus groups.)

Walking/Biking

Advantages

Parents in the middle school and elementary school groups in both districts were enthusiastic about improving options for walking or biking to school. Cited advantages to walking or biking included the ability to get exercise and fresh air, the fact that it is free, and the opportunity to interact with the community and the environment at a different level than in the car.

Barriers

The rural nature of the South Whidbey and Coupeville school districts makes walking or biking to school difficult for most of the residents. Many students simply live too far from the school to make walking or biking truly feasible. That being said, for those who could conceivably walk or bike to school, there are several additional obstacles, including the following:

- Early start times – for middle school parents and for high school students, the 8:00 or earlier start times makes walking or biking less attractive than faster modes.

- Safety – While some of the area's main roads have wide shoulders, many focus group participants felt uncomfortable riding their bikes or walking in such close proximity to cars going 35 to 55 miles an hour (or faster). In addition, many secondary roads have no shoulders at all, which would mean riding or walking in the traffic lane. This need for better trail connections is more apparent in the South Whidbey School District. Focus group participants in both parent groups and in all three high school groups felt that a separate trail system with good connections between the communities where people live and the schools would be well used, especially on nice weather days. The Coupeville School District already has a fairly well used trail network, which it is extending. Several of the high school participants said they were looking forward to the improvements and that they would use the trails.

- Weather – The area's windy, rainy, and somewhat cold weather, which persists for much of the school year, is a deterrent to many who could walk or ride to school. In addition, in the winter it is dark when people would be riding or walking to school, and this makes some uncomfortable. While this is a difficult obstacle for public policy to overcome, there is some evidence from the high

school focus groups that familiarity breeds comfort, and that those who do walk or bike to school simply find ways to deal with the weather.

- Lack of bike racks at the schools – In South Whidbey, in both of the parent focus groups, and in two out of three of the high school student groups, it was noted that the schools had very few bike racks for those students who did ride their bikes to school. When one middle school parent asked where the bike racks were located, the school official she spoke to did not know the answer. “I don’t know,” she said, “Nobody ever bikes to school.” None of the bike racks are readily visible, and none of them are in sheltered areas that would keep the bikes dry in case of rain.

- Not wanting to get to school dirty – In the high school groups, several participants expressed distaste at the idea of getting to school ‘dirty and sweaty’ after biking in. Another concern was not having room in the lockers to store dirty or wet riding gear.

- Not being able to carry ‘gear.’ – In all three of the high school groups, participants mentioned that the amount of ‘gear’ they need to take to school—for band, for sports, or for other activities—would be difficult to transport on a bike or by walking.

<u>Opportunities</u>
Among the suggestions for increasing the number of people who walk or bike to school, the most important were the following:

- Improving the trail connections between the area neighborhoods and the schools. Apparently, the city of Langley and Island County Parks and Recreation are trying to develop a trail system with better connectivity, but they are having difficulty getting easements to allow the trails to go through private property.

- Lower speed limits on the roads to the schools.

- Later start times for the middle and high schools. Starting later would give those who want to walk or bike to school a little more time to get to school and clean up before the start of the day. In addition, starting later would allow those who walk or bike to do so during daylight hours, instead of on dark and poorly lit roads.

- Some sort of encouragement from the schools for those who walk or bike, including, but not limited to,
    - prominent placement of bike racks near the school entrance, preferably under some sort of shelter

- a walk or bike to school contest or incentive program, with prizes for individuals or teams who logged the most miles, or who made the most trips
- some place for those who ride to store or hang their wet riding gear to allow it to dry during the day.

- One suggestion was that parents form riding or walking groups, along the lines of a Walking School Bus. The idea was that walkers or cyclists in a pack are more visible to drivers and tend to slow cars down, making walking or riding safer.

  The South Whidbey Elementary Schools did try to implement a Walking School Bus, with almost no success. When asked about it, parents in the focus group said that the general consensus was that the Walking School Bus started too close to the school. Parents felt that if they were driving all that way, they might as well just drive an additional two blocks and drop their kids off at school. For some parents, it was farther to drive to the meeting point than to the school. However, in Coupeville there was more enthusiasm for the idea of a Walking or a Riding School Bus. Coupeville schools are relatively closer to many neighborhoods where their students live than are the South Whidbey schools.

Lessons Learned

In all of the groups, the most common reason given for driving rather than using other modes to get to and from school was the relative speed, convenience, and flexibility that driving offers. That being said, there was general agreement that fewer parents and students would drive if the bus ride were shorter and more comfortable; if both parents and students were better educated about the merits and the safety features of Island Transit and how to use it; if Island Transit coordinated its schedules with the start and end times of the schools; if safe trails connected neighborhoods to the schools and the schools encouraged walking and biking; if parents and students had a better tool for organizing carpools; and, for the middle and high school students, if school started later so that they had more time to both get sufficient sleep and get to school using an alternative mode of transportation. Carrying out most of these changes would be complicated, and none would be easy to implement in the short term. However, it seems likely that, in order to have a real impact, a commute trip reduction program would need to include all or several of these changes.

From the comments in the focus groups, the changes that would have the most impact in the short term would be reducing the amount of time students have to be on the bus, and switching the high schools and middle schools to a later start time. Even with shorter rides, high school students might still avoid the bus because of its association with younger children, but the participating parents who currently drive their children for one

or more trips a day said they would be much more willing to use the bus more often if the ride were shorter (in general, a half hour or less was deemed acceptable; anything over 45 minutes was thought to be too long).

The suggestion of later start times came up in all of the high school groups and in one middle school group. As mentioned above, students and parents felt strongly that a later start time would increase their likelihood of using almost any alternative mode of transportation to and from school. It would be interesting to look at school districts that have moved their high schools to a later start time to see whether there has been any reduction in the amount of driving as a perhaps fortuitous result.

Parents and students in rural school districts face many barriers in moving from their cars to alternative modes to get to and from school. Long distances, lack of time, and lack of resources are only a few. These focus groups on Whidbey Island were only the start of a conversation to discover what these barriers are and how policy makers and parents can work together to remove them.

Replicating the Program

Rural and exurban school districts, their parents, and students can work to maximize the effectiveness of public transit systems where they exist.

WESTERN WASHINGTON UNIVERSITY—VIKING XPRESS PASS AND STUDENT TRANSPORTATION PROGRAM

Introducing a mandatory unlimited access pass

Description

Western Washington University (WWU) students developed and approved an initiative in 2006 to create a $25 per quarter student fee to fund a mandatory universal transit pass called the Viking Xpress, a night shuttle operating after transit hours, and a student transportation coordinator responsible to student government. They did not, however, have a system in place to measure the performance of this initiative. The UW study team worked with WWU's Sustainable Transportation Office to understand the program's goals and design an electronic survey and other instruments to measure progress. These included traffic volume counts, a transportation survey of the entire student body and transit ridership data. WWU students were employed to gather the data, and the UW study team analyzed the data and prepared a report for the Sustainable Transportation Office. WWU plans to gather data annually to continue measuring the performance of its program. This program of interest meets the legislative mandate to design a university program that incorporates student employment, and it follows the universal/unlimited access pass model identified in the Phase 1 report (see pages 34-36 and 50-52).

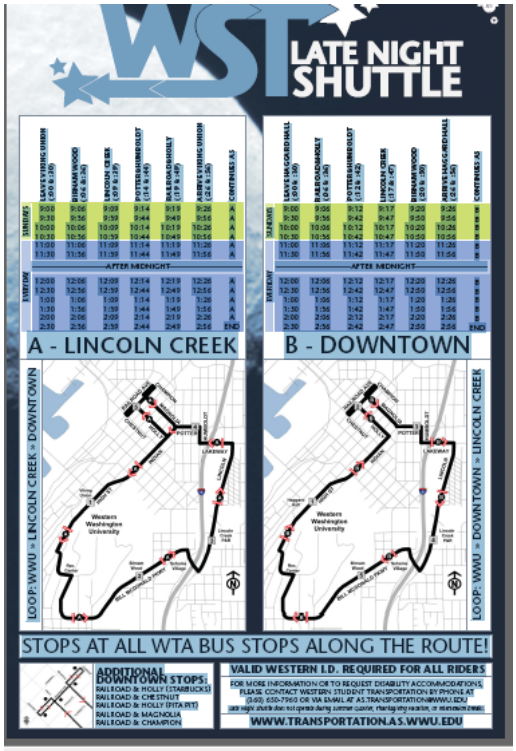

Figure II-29: Late Night Shuttle Schedule: The new student fee funded a late night shuttle to supplement transit service.

Objectives

Short Term: Stabilize the transit pass price (it was set to almost double), improve transit service, enhance students' role in transportation decisions, and reduce parking demand and impacts on the neighborhood.

Long Term: Reduce students driving to school and the need and cost for new parking facilities. Reduce the number of students who own cars. Reduce WWU's impact on the environment.

Strategy for Change

A mandatory, pre-paid pass, coupled with improved and expanded service, will increase new transit users and ridership among existing users, reducing commute trips by SOV. Having an Associated Students staff member on the program improves responsiveness to student concerns and the effectiveness of the program. Extending the hours that transit is available through a night shuttle will reduce the need for students to own cars and thus their ability to drive to campus.

Implementation

The program was fully implemented beginning in fall 2007; the mandatory Xpress pass was picked up by more than 80 percent of students paying the fee in both fall 2007 and 2008. The night shuttle operated as planned, and a student was hired to serve as the AS Transportation Coordinator.

Management

The Western Student Transportation program is managed by the Sustainable Transportation Office of WWU and involved partnerships between

- WWU and Whatcom Transit Authority (WTA): WWU and WTA negotiated to create the Xpress pass. WWU sought to reduce student costs and improve services and offered additional revenue and ridership from WWU students.
- WWU and Student Government: The Western Student Transportation initiative created the Student Fee Committee to oversee the program. The committee has a membership of student government, university administrators, transportation staff and the AS Transportation Coordinator, a student staff position that reports to the Associated Student Transportation Advisory Committee, student government leaders, and the WWU sustainable transportation program manager.

Funding

The program is funded through a $25 per quarter student fee. This study provided funding for evaluation.

Components

- Xpress Pass: Pre-paid universal transit pass on Whatcom Transit Authority offered to all students taking more than 6 credits.
- AS Transportation Coordinator: Primary duties include assuring accountability for programs operated by student fee revenue, program outreach, communications between the Associated Students and the university administration, and gathering information on and advocating for students' interests. The AS Transportation Coordinator also participates in discussions and negotiations with community groups and WTA.

Night Shuttle: A fixed route shuttle that operates after transit hours starting at 9:00 PM on Sundays and 11:00 PM every other day and ending at 3:00 AM, providing service in 30-minute intervals between campus and downtown and nearby neighborhoods. WWU owns the vehicles, and drivers are contracted through Bellair Charters/Airporter Shuttle.

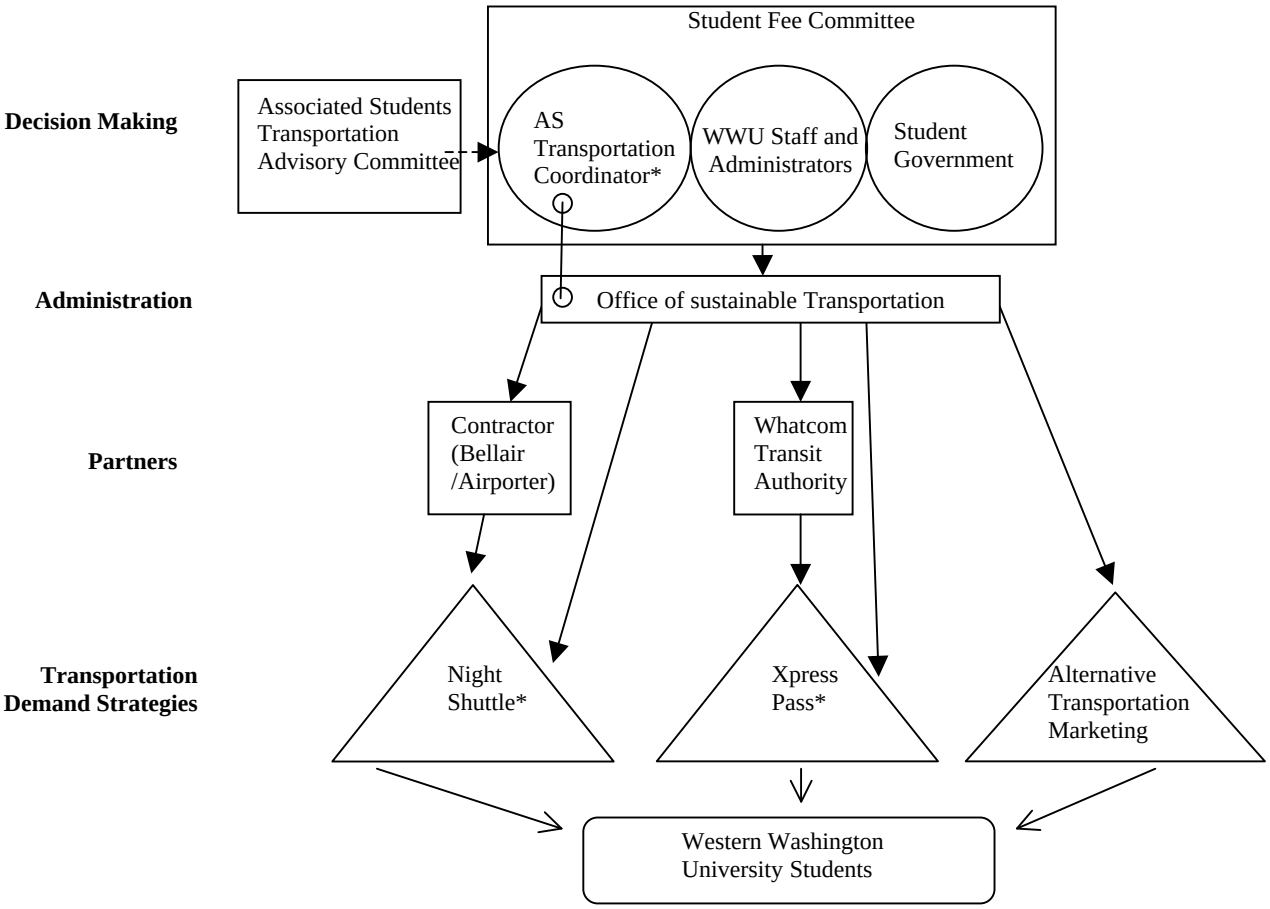

Figure II-30: Western Student Transportation Organization Chart: The Western Student Transportation Program is overseen by the Student Fee Committee, which advises University Administration and receives input from the Associated Student Advisory Committee through the AS Transportation Coordinator. The program is administered by the Office of Sustainable Transportation.

*funded by a student fee from student initiative

Research Questions and Methods

We sought answers to these questions:

- How does a mandatory prepaid transit pass, coupled with a new night shuttle, affect congestion around campus?

- What role does a paid student transportation representative play in guiding and/or implementing the program?

By using these methods:

- design and use of instruments to assess the impact of WST, which included an electronic student questionnaire, traffic counts, and analysis of WTA fare box data.

Information was collected in May of 2008 to use as a comparison to 2003 data and as a baseline to track the impacts of the WST program in the future.

Results

Student Behavior and Attitudes

Auto congestion around Western Washington University is slightly reduced from five years ago when the last survey and traffic count were conducted. Traffic counts showed a 2.7 percent *decrease* in vehicles on key roads surrounding campus since a similar count in 2003. The survey indicated a similar *decrease* in students reporting they drive alone to campus at least three days a week. Interestingly, walking also appeared to decrease, while bus ridership increased.

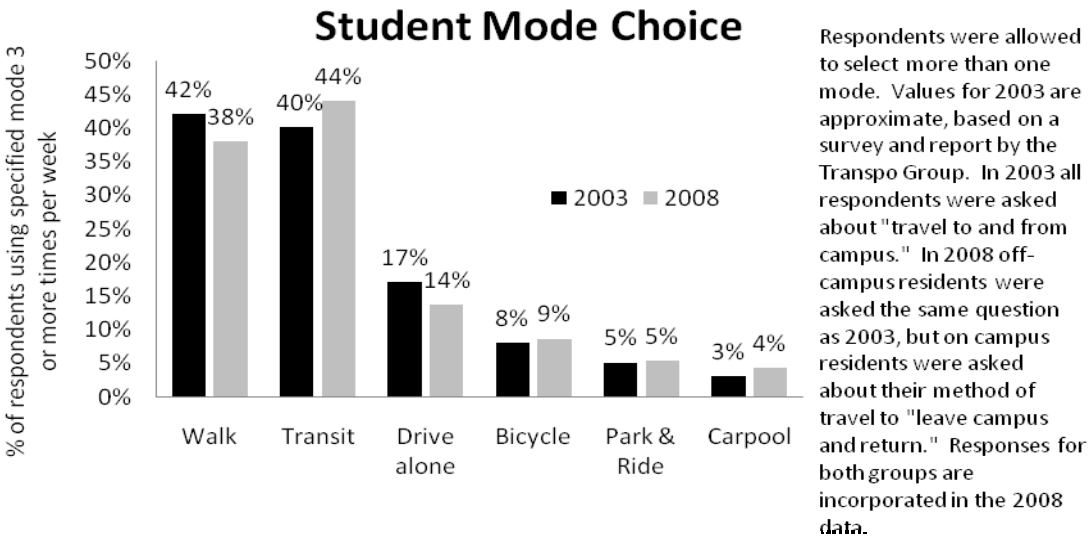

Figure II-31: WWU Student Commute Mode Split: A transportation survey was distributed electronically to all Western Washington students, and 3,971, or about 30 percent, of students responded. These results were compared to a similar survey conducted in 2003 and show increases in transit as students' primary mode choice and decreases in driving alone and walking.

T**able II-6: Vehicle Volume (left):** Counts of traffic volumes conducted at six locations near the Western Washington campus show a reduction from equivalent counts in May 2003.
Table II-7:Transit Ridership (right) Data from the Whatcom Transit Authority show dramatic ridership increases since the mandatory Xpress pass was introduced in October 2007. In September 2007 bus drivers reported 676 incidents of overcrowding, while in September 2008 that figure rose to 3,108.

Traffic Volume			
Peak Morning Vehicles		Peak Afternoon Vehicles	
Peak AM 2008	4,008	Peak PM 2008	5,795
Peak AM 2003	4,161	Peak AM 2003	5,915
Difference	-153.5	Difference	-120.5
% change	**-3.7%**	**% change**	**-2.0%**

Transit Ridership		
	Viking Xpress Pass Boardings	Total WTA Boardings
May 2007	108,166	334,952
May 2008	186,746	453,154
% change	**+73%**	**+35%**

Note that our survey and counts in 2008 coincided with record high gas prices. Transit ridership across the state was up, including in Bellingham. However, Viking Pass Boardings exceeded WTA general boardings (see Table II-7 above).

Three times more Western Washington students responding to our questionnaire reported that they frequently rode the bus or walked than take any other mode. This is true even though 70 percent of students owned cars. Students living off-campus drove alone to school at a higher rate; nearly 20 percent did so regularly.

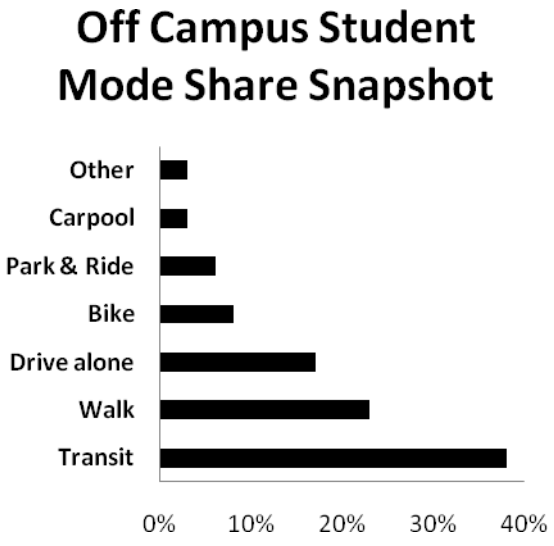

Figure II-32: Off-Campus Student Mode Split Snapshot: Students indicating they lived off campus were asked what mode of transportation they took on their most recent trip to campus. This snapshot mode split equates with what students reported as their primary mode choices.

While a mandatory pre-paid transit pass increases the convenience and provides a financial incentive for riding the bus, those who typically drive to the University have

demonstrated their willingness to pay for parking and reported that convenience and time are their principal reasons for driving in the student survey. Likewise, student drivers blamed inadequate service and time as the reason they drive rather than use transit.

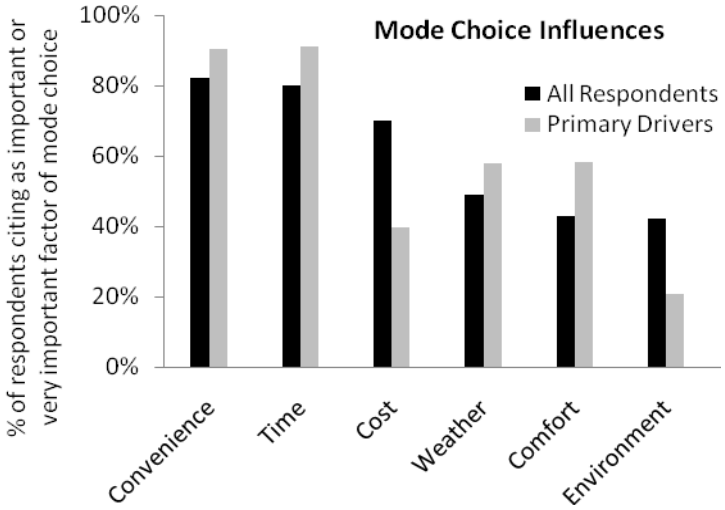

Figure II-33: Student Mode Choice Influences: When asked to rate factors influencing their transportation choice, convenience and time were ranked important or very important by most respondents, including 90 percent of off-campus students who primarily drive to campus.

Student Representation and Inclusion

The AS Student Transportation Coordinator position was crafted by the student government. The coordinator's responsibility is to ensure that the decisions made concerning transportation are reviewed by students. The coordinator reports to and is assigned duties by the AS Board, the AS Transportation Advisory Committee, and the program manager for the University's Sustainable Transportation Office.

Before the AS transportation coordinator position was created, it was difficult for students to be informed and engaged in transportation initiatives on campus and in the community. In the 2007-2008 school year the Coordinator met regularly with the AS Transportation Advisory Committee, which is made up of both student government representatives and other students. He bounced ideas off the committee and used their decisions as the foundation of his work at the Sustainable Transportation Office.

The AS Coordinator reported satisfaction with the development of the WST program and found that student ideas were genuinely represented in and influenced the Student Transportation program. Likewise, the WWU transportation manager reported that the AS Transportation Coordinator was effective at representing student needs. The Coordinator and a representative from the ASTAC wanted to encourage other schools to

consider creating a similar position to represent student interests and ideas. The WWU transportation program manager cited the following prerequisites for establishing a student coordinator position: assuring buy-in from students, staff, and administrators; providing training; and establishing a student transportation advisory committee to create a qualified pool of applicants.

Night Shuttle and Car Ownership

The night shuttle was launched in order to reduce dependence on cars for the hours after which WTA transit shuts down, at 11:00 PM or earlier on some routes. The night shuttle costs $3.47 of the $25 student transportation fee assessed to each student. The night shuttle was reported to be the primary method for going out at night by around 3.5 percent of respondents in the student transportation survey. Daily ridership for the night shuttle averaged 85 students in the first two quarters and 107 students in the third quarter.

Lessons Learned

A mandatory universal pass increases transit ridership dramatically. Capacity and overcrowded buses will decrease service quality and require ongoing service and equipment adjustments. Student car ownership remained at about 70 percent, with most students responding that they used cars when they needed to get away from the campus and downtown areas. About 18 percent of respondents drove to campus and parked there. If WWU and the Associated Students want to reduce that number or the rate of increase in the future, they will need to employ parking pricing and management components of the universal pass model. This will entail increases for on-campus SOV parking rates and coordination with the City of Bellingham's on-street parking controls around the campus[6].

With baselines now in place, Western Washington University is in a position to learn more about what is working and not working with the Western Student Transportation Program by setting and measuring performance standards and managing the program to meet its goals.

The establishment of a transportation coordinator responsible to student government has the potential to:

- Increase the university's accountability to students, particularly in conjunction with a new student transportation fee

[6] *Transportation Demand Strategies for Schools,* the first phase of this study, cites literature on University of Colorado's student bus pass program, an evaluation of UCLA's unlimited access program, and findings from cash-out parking experiences in California (pages 35, 37, 38, 39). All demonstrate that free parking greatly increases solo driving and that decreased transit and carpool costs, coupled with increased parking rates, greatly decrease solo driving.

- Educate and develop capacity for transportation decision making within the student body by developing an expert and having that expert transfer knowledge to a committee.

In fall 2008 WST had begun new partnerships with retailers to encourage use of the late night shuttle, and ridership was up. The City also reconfigured and reduced capacity of street parking near campus to improve pedestrian safety.

Replicating the Program

The universal pass/unlimited access model has been successfully adopted by universities across the country. University students have demonstrated a willingness to increase fees at WWU and elsewhere in order to provide transit alternatives and contribute to a greener lifestyle.

CENTRAL WASHINGTON UNIVERSITY—CENTRAL TRANSIT

Creating a transit alternative in a rural area

Description

The City of Ellensburg (pop. 17,000) had no transit system until Central Washington University launched Central Transit. Central Transit originated from a guaranteed ride home program and, like WWU, a student initiative to fund transit. It was converted to a fixed route transit system serving both students and the general public by the University administration in 2000. Central Transit was made possible by creating a partnership with a social service agency that maintains and operate minibuses and through grants, in-kind, and financial contributions from the city and other nonprofits. Central Transit is designed to provide an alternative to owning and operating a car for CWU students.

Figure II-34: Central Transit Vehicle: Central Transit uses shuttle buses to operate its fixed route services.

Objectives

The University's objectives are to reduce the number of students using cars on and around campus, reduce demand for parking, and improve student access to employment and recreation. HopeSource's objective is to provide mobility to a broader segment of the Ellensburg community.

Strategy for Change

Regularly scheduled HOV service between campus, residential areas, and the business district will reduce the number of students bringing cars to school and reduce car use, which will result in less congestion in and around campus.

Implementation

Management

Central Transit is primarily a partnership between the CWU Police, which manages the program, and the human service organization HopeSource, which is contracted to operate the service. Support is also provided by Elmview, a disability services organization, Central Washington Disability Resources, WSDOT, and the City of Ellensburg.

Funding

Funding comes from student fees, WSDOT grants, and local social service organizations; are more details are in the Results section under Finances.

Components

Central Transit is a pre-paid transit system that allows students, as well as the general public, to travel to and from campus, commercial outlets, and a residential area north of campus with no fare required. The morning route operates Monday through Friday from 7:00 to 10:00 AM on a trial basis. The evening route, which has recently completed its third year of operation, runs Monday through Sunday from 2:00 PM to 12:00 AM, with buses running every 30 minutes or less. Transit routes were designed from student input.

Figure II-35: Bus Stop: Students wait at a Central Transit stop

Research Question and Methods

We sought answers to this question:

- How can a universal pass type program be developed in the absence of a public transit agency?

By using these methods:

- a facilitated discussion with the Central Transit committee
- existing documentation of the program.

Results

Origins

Individuals made proposals for a municipal transit system in the past, but it was never politically feasible. An inter-campus transit system was piloted at CWU 15 years prior to Central Transit but failed. Central Transit began as a Designated Driver and Safe Ride Program in 1998, funded by a grant from the Washington Traffic Safety Commission and managed by the campus wellness center. The program was popular, and students sought longer hours and expanded service. When the grant for the program expired in 1999, students created and overwhelmingly approved an initiative to institute a $3 per quarter student fee to continue the program. However, the “drunk bus” program had a bad reputation with the city and was only helping a small portion of the campus population. In 2005 the University modified the program to become a fixed route transit system serving a wider swath of Ellensburg. The program was created by the University, with input from students, using the existing $3 per quarter student fee. It was operated through a contract with the non-profit HopeSource.

Ridership

Ridership has steadily increased each year of the program along with service hours and coverage of the city.

Table II-8: Central Transit Boardings and Service Improvements: Boardings are increasing as service expands.

School Year	Boardings	Service Added
2005/6	24,000	2pm to 12am fixed route transit service
2006/7	34,000	Evening route, breaks and holidays, public rides free
2007/8	34,000	Morning route 7:00am to 10:00am
2008/9	40,000*	

*projected

- Most drop-offs are at Fred Meyer at the southern end of the Central Business District, where students go to shop or for work.
- Most pickups are on campus.
- Most morning passengers are destined for campus.
- Most afternoon passengers are leaving campus.

Figure II-36: Route Map: Central Transit circles campus on the way to the Central Business District

Parking

Twenty years ago the CWU administration decided to move parking to the periphery of campus. Currently there is only one parking area in central campus. A new recreation center was recently constructed next to residential dorms, and that lot is consistently full. By 10:00 AM most prime parking is taken, and cars cruising for parking spots are an issue. Payment is required for parking lots except for two distant lots about 1,000 yards from the center of campus. Regular rates are $3 for a day, $90 for a quarter, or $180 for the academic year. Prices are slightly less for two discount lots farther from campus. Two hundred new spots are being built with a new 476-unit dorm, and a recent study showed that there were 300 open spaces in campus parking lots.

Finances

Funding is the foremost issue for the partners of Central Transit and is pieced together from a variety of contributors. There is no dedicated county or municipal funding.

Expenses

The cost to operate Central Transit during the academic year was approximately $85,000 in the school year ending in 2007, but rising fuel costs led to a $15,000 shortfall in 2008.

Figure II-37: Core CWU Campus: Gray areas are roads and parking. Only one lot exists at the center, but parking surrounds the periphery.

Revenue and Support

Currently funding comes from multiple sources:

- University Students - $73,000 per yr from $3 per quarter student fee, program management
- Washington State Department of Transportation - $200,000 matching grant over 2 years for operations, including morning service, and $144,000 for two new mini-buses.
- City of Ellensburg - Signage and enforcement
- Social Service Organizations:
    - HopeSource (human services) - Contractor for operations and vehicles
    - Elmview (disability services) - $30,000 over last two years
    - Central Washington Disability Resources - $16,000 over last two years

Central Transit is currently exploring more secure and sustainable funding and new funding partners for specific routes. Relying on grants as they do now creates a perpetual need to find funding.

Options include the following:

- Support from the city: a sales tax mechanism exists, and the mayor is likely to support a measure, but it may still be 3 to 5 years away politically. A tax-based financing mechanism would be permanent and would tie service to population growth.
- Concurrency agreements with developers to contribute to Central Transit in exchange for stops near new developments: a previous attempt at this type of agreement was unsuccessful because of a lack of follow-through from the developer.
- Student fee increase, although declining enrollment threatens existing revenue from student fees.
- Applying for WSDOT matching grants with community partners.

Partners

According to one Central Transit committee member, the Central Transit program was able to tap each of the partner's interests through the program, yet Central Transit creates

benefits that are greater than the partners' individual gains. The consensus among Central Transit partners is that their independent interests have not come into conflict or proved to be a barrier; rather, they have made the program stronger. .

The Central Transit committee meets monthly and includes the CWU student body president and the funding and operating partners of Central Transit.:

Current Partners

- The University
  CWU's objectives are spelled out above and include reducing congestion, reducing costs for students and staff, and improving environmental sustainability.
- HopeSource
  HopeSource, a nonprofit that provides social services on a variety of fronts, believes Central Transit will spawn economic development, connect individuals to critical services and provide a means of transportation for elderly and youth as well as students and the general public. HopeSource sees Central Transit as a mechanism of further integrating the University with the city.
- Elmview and Central Washington Disability Resources (CWDR)
  Elmview and CWDR are disability service organizations that believe Central Transit improves mobility for people with disabilities. Elmview is directed by an Ellensburg City Council member who sees a public interest in transit and has sought municipal support.
- City of Ellensburg
  The City of Ellensburg, led by the mayor, has an interest in providing alternatives to cars for its citizens. A non-motorized task force is currently under way, and there is potential to expand municipal support of Central Transit.

Potential Partners

Other partners are currently being solicited to fund specific routes and facilities, such as bus shelters, and may include: developers, major retailers, medical facilities, and neighboring transit agencies.

Next Steps

The Central Transit committee wants to expand to become a more complete alternative to owning a car by providing additional service, such as addressing the mid-day 10:00 AM to 2:00 PM period when there currently is no service.

Long distance service is also an area of interest to Central Transit and the University. HopeSource is part of the Regional Transportation Planning Organization, QUADCO. However, Kittitas County has been grouped with Grant, Lincoln, and Adams counties, which are associated by physical ties such as bridges, rather than human ties and real

commuting patterns that flow primarily from Wenatchee, Cle Elum, and Yakima. Talks are under way with the Yakima transit authority for connecting service. HopeSource has sought to provide long-distance service in the past through vanpooling funds from the state, but as a non-tax based entity it is not permitted to accept these funds. Instead HopeSource was forced to partner with another county, which was successful, but a willing partner may not always be available.

Another area for exploration is working with other existing transportation providers such as private vans from retirement homes or yellow school buses.

Lessons Learned

- Central Washington University was able to use partnerships with nonprofit providers to produce a basic transit system at a low cost to students that serves campus and provides an alternative to driving.
- An initial small grant provided a taste of transit to students. Students were willing to pay to keep the system running once they experienced its benefits and wanted more. A little supply showed that there was a great deal of demand.
- Rural politics makes funding transit a challenge, but a sustainable funding source is vital to long-term success.
- Operating the system through a nonprofit entity presents some barriers to government financing.

Replicating the Program

Central Transit emerged from a particular set of circumstances, yet the lessons listed above, particularly that many partners—the University, social service organizations, the city—can be drawn together to support a transit programs could be applied in any area without a transit agency.

SECTION III: FINDINGS

No single program or tool universally reduces auto congestion around schools. The Programs of Interest revealed no silver bullet. Rather, a variety of tools exist that schools, other civic institutions, parents and students can employ or adapt singly and in combination to reduce auto congestion around schools. These range from a Safe Routes to School walking encouragement program at elementary schools to a mandatory unlimited access transit pass at a university. Findings regarding strengths of programs and barriers to their success at reducing auto use around schools are highlighted in the two sections that follow.

STRENGTHS

Overarching

- *Programs benefited from integration into a larger policy framework and cooperation and partnership among schools and other organizations.*

Whidbey Island is served by an award winning, fare-free transit district. However, its routing and scheduling are not coordinated with the three school districts serving the Island's families. Each school district operates its own yellow bus fleet. The Coupeville and South Whidbey school districts' mission statements, facilities, and transportation plans were largely silent on issues of auto use, parking, alternative modes other than school buses or incentives or disincentives for auto use to and from schools. Routes between the districts are also uncoordinated. There are many opportunities to coordinate these resources, save funds, improve service, and reduce auto traffic to schools.

Skagit Valley Hospital administers a Healthy Communities grant from the Centers for Disease Control. It created the **Mt Vernon Healthy Community Project,** which created an initiative to increase children's activity levels and a Healthy Schools pilot program. This initiative led to a Safe Routes to School Grant and the creation of an oversight committee representing the police, public works, school district, and hospital. This committee is responsible for the design and implementation of a unique walking school bus program. Having buy-in from key stakeholders inside and outside of the public school system, articulating a larger mission—community health, and having leadership from the community hospital are factors in the Mt Vernon program's success.

The Growth and Transportation Efficiency Center (GTEC) modification to the CTR Act is a new approach that uses and reinforces urban 'centers' to reduce auto dependence. It sets commute driving targets on a geographic basis, rather than an employer basis, and applies to small employers and non-commute trips. The City of Olympia, in partnership

with the **Thurston Regional Planning Council** (TRPC), received funds to develop a **GTEC** in the downtown and Capitol areas. Students at the two schools in the GTEC boundary were not initially factored into the GTEC equation. That omission was remedied as part of this study, making the GTEC institutional structure more complete, increasing the likelihood that transit and walking options to schools will increase and that drop-off auto activity to schools will decrease.

- *Program sponsors listened to and learned from their customers.*

After **Feet First** developed the first version of **SchoolShare,** its ride-matching website, the group conducted a facilitated group interview with parents to find out how they used it, what they liked about it, and what could be improved. Parents indicated that this tool would be valuable for meeting and coordinating with families in their neighborhood to share trips but wanted to choose what information they shared. Feet First is in the process of remodeling the SchoolShare site and concepts on the basis of parent feedback.

Created by a student initiative and funded through student fees, the **Western Washington University Viking Xpress Pass and Student Transportation Program** integrated responsiveness to students into the structure of the program through a paid student government transportation coordinator. The Associated Students Transportation Coordinator works in the University's transportation department, but also reports to student government and a separate student transportation committee. The coordinator is responsible for gathering information on and advocating for students' transportation ideas and needs and assuring that their fees are being used in their best interest.

The South Whidbey and Coupeville school districts agreed to host **UW-led focus groups** of parents and high school students to understand the choices being made in travelling to and from school and to learn more about preferences for and barriers to using buses and transit. By talking with users, the school districts and **Island Transit** now have access to current, shared information to enable them to provide needed service and routes in the most responsive ways.

K-8

- *The Safe Routes to School approach reduced congestion through education and encouragement of walking in combination with pedestrian engineering improvements and enforcement of existing traffic laws.*

The Safe Routes to School program provides technical assistance, resources, and funding to cities, counties, schools, school districts, and state agencies for engineering, education,

encouragement, and enforcement improvements to get more children walking and bicycling to school safely.[7]

Go!'s education and encouragement efforts in West Seattle reduced the number of cars dropping elementary students off in front of school. The **Go!** Program in West Seattle schools was funded by a Washington Safe Routes to School grant and a City of Seattle transportation levy for engineering projects at one school. The program involved pedestrian infrastructure improvements, police enforcement of traffic laws, and education about and encouragement for walking to school more and driving alone less. The comprehensive program resulted in an 8 percent reduction in students who reported that they commuted to school by car at one school from fall 2007 to fall 2008. Another school that focused primarily on education and encouragement during the evaluation period saw a short-term 20 percent reduction in car drop-offs in front of the school. By comparison, a control school without the Go! program had a slight increase in car drop-offs in front of the school. **Mt Vernon's** walk to school program, which implemented Safe Routes to School and created an innovative walking school bus system, also reduced car traffic in front of school.

- *Some programs demonstrated the ability to adapt and innovate.*

Many parents of elementary school students would like their child to walk to school but live too far away for unsupervised walking. Other parents are resistant to changing their habits and trying new ways to travel. The **Phantom Lake PTA Walk to School Program** identified hesitant parents as a major barrier to change. The literature review from Phase 1 of this study and focus groups conducted on Whidbey Island confirm that distance from school, travel time, and safety are perceived obstacles to walking and reducing car trips to and from school. **Mt Vernon's Safe Routes to School** program took these factors into account and developed the **Hub and Spoke Walking School Bus** system**.** Parents drive their child to a supervised drop-off location a half mile from school. Students then proceed in Walking School Bus fashion to the school itself, and the process is reversed at the end of the school day. The hub and spoke system reduces auto congestion around the school and increases student physical activity, but it does not substantially reduce SOV trips nor greenhouse gas emissions.

[7] Over the last two years the WSDOT Safe Routes to School Program has funded a total of 39 projects out of approximately 213 applications that totaled $87 million. The funded projects improve walking and biking conditions for 58 schools and approximately 14,500 children. Half of the funded projects have provided evaluation results showing an average increase of 30 percent in the number of children walking and biking to school, a reduction in motorist travel speeds and traffic citations near schools, and increased student compliance with safe crossing behaviors.

High Schools

- *Education and encouragement can reduce auto congestion at elementary schools. Can it work at high schools?*

High school students interviewed for this study confirmed what most of us know and remember from our teenage years: driving is cool, and obtaining a driver's license is an important rite of passage[8]. By the same token, teens are well aware of the importance of reducing greenhouse gases and protecting the environment and want to do the right thing. Many students could make different decisions; a survey at one Seattle school demonstrated that many students within close distance of school and transit elect to travel to school by car[9]. The **Mobility Education Foundation** is committed to changing the driver education curriculum in our high schools to include lessons not only on how to drive, but how to use transit, walking, and bicycling to get around. The **MEF** piloted this expanded curriculum in a Federal Way high school and designed a one-day course aimed at both high school students and their parents.

College/University

- *Colleges and universities can reduce car use and transportation costs to the student and university, as well as increase student transit use through mandatory universal transit/unlimited access passes.*

Western Washington University's students championed a new **Xpress Pass and Student Transportation Program,** which initiated a mandatory student fee to 1) create a universal transit pass at a lower cost, 2) increase transit service, and 3) reduce student auto-dependence and use around campus. As a result, transit ridership soared. However, student car ownership, on-campus parking rates, and off-campus parking restrictions remained substantially the same. The university administration and the City of Bellingham have yet to realize the full potential of this universal pass initiative by managing parking[10].

Central Washington University wanted to create a universal pass system. One problem stood in the way: there was no public transit system in Ellensburg. So **CWU and the non-profit social service agency HopeSource** created a 'virtual' municipal transit

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[8] We conducted seven focus groups of high school students in the Coupeville and South Whidbey school districts on Whidbey Island, Washington, in October 2008.

[9] One finding of a survey conducted at Chief Sealth High School was that 43 percent of reported travel days were by car for students that live within 3 miles of school without district provided transportation.

[10] *Transportation Demand Strategies for Schools,* the first phase of this study, cites literature on University of Colorado's student bus pass program, an evaluation of UCLA's unlimited access program and findings from cash-out parking experiences in California (pages 35, 37, 38, 39). All demonstrate that free parking greatly increases solo driving and that decreased transit and carpool costs, coupled with increased parking rates, greatly decrease solo driving.

system with no boarding fee, complete with routes, schedules, and bus stops to connect the campus with the city and reduce the need to own and drive a car.

BARRIERS

Overarching

- *Reducing auto congestion is not part of schools' primary mission or plans as providers of basic education. K-12 schools have few incentives or requirements to reduce auto congestion.*

- *Similarly, there is no existing framework to encourage or require congestion reduction around schools. They have been exempted from the CTR Law and generally have not developed a culture or administrative system to reduce employee or student auto use.*

- *Schools are not sited with the intention of being accessible by foot, bicycle or transit.*

K-8

- *The Safe Routes to Schools program offers benefits beyond safety and healthy physical activity for students. It is one of WSDOT's tools to help residents reduce vehicle miles travelled (VMT) and greenhouse gas (GHG) emissions. However, it does not appear to be linked with or focused on other departmental transportation demand management (TDM) and commute trip reduction (CTR) strategies. Under its current formulation, its key indicators revolve around physical activity and safety, not measures of auto use and student drop offs.*

High School

- *Schools in our Programs of Interest did not employ disincentives to driving alone such as charging high school students to park or limiting drop-off and pick-up space in front of schools*[11].

College/ University

- *While the our post-secondary Programs of Interest charged for parking, they did not manage parking with the intention of reducing demand, as model universal pass/ unlimited access programs at UCLA, University of Colorado, and University of Washington, referenced in Phase 1 of the study, have done.*

[11] See the report produced for WSDOT by Anne Vernez Moudon and Matt Cail, *Schools and Transportation Policy*, 2002, summarized in Phase 1 of this study (page 43).

SECTION IV: RECOMMENDATIONS

The findings lead to several recommendations about what the state legislature and local leaders can do to reduce auto congestion around schools.

- *Set auto use reduction targets for schools..*

An important function of state government is to establish standards and targets for businesses, institutions and individual residents. In 2008, the state legislature passed SHB 2815, which set per capita vehicle miles travelled (VMT) reduction targets of 18 percent by the year 2020, 35 percent by the year 2035, and 50 percent by the year 2050.

The Commute Trip Reduction law is already working to reduce VMT for major employers. However, schools were exempted from the 1990 CTR law and have never had to adopt a culture of SOV trip reduction like other institutions in the public and private sectors that have encouraged carpooling, priced parking, provided shower or locker facilities for bicyclists and walkers, and educated staff about alternative transportation choices. Trip reduction targets similar to CTR could be embraced by the state's public and private schools to help the state meet VMT goals. Then school districts, individual school administrators, parents, and municipal agencies could work together to select the combination of programs (covered in this report) to best meet their needs to achieve the targets. In the absence of any measurable targets, there is little incentive for school leaders to act on something that is often considered peripheral to their primary mission of educating students.

- *Set walking/bicycling targets for schools.*

One way to reduce auto congestion around schools is to induce more students to walk or bike to school. This could complement auto use reduction targets. In the 1950s and 1960s over half of America's elementary school children walked or bicycled to school. Today less than 15 percent do so. There are big public health benefits to the state for increasing physical activity and decreasing child obesity, and, of course, these benefits relate directly to the wellness of individual children and their families. The research in this report reveals some of the factors and perceived barriers that prevent students from walking. These include distance from the school, absence of direct and traffic-controlled walking routes, fear of predatory crime, bad weather, and too early school starting times. Some of the programs reviewed in this report effectively address these issues.

The 2008 Washington State Bicycle Facilities and Pedestrian Walkways Plan establishes objectives and performance measures for each of the state's five transportation policy areas: preservation, safety, mobility, environment, and stewardship. It sets a 20-year goal of doubling the percHowever, it is largely silent on the issue of reducing auto congestion around schools or setting performance standards specific to schools. For example, the statewide target of 12 percent for the year 2027 is lower than the current national walk/bike to school rate of approximately 15 percent. (By comparison, Feet First, the Seattle-based walking advocacy group, used a target of a 25 percent walk to school rate for its Safe Routes to School program.) The legislature could adopt a similar performance measure or follow the VMT model of incremental change over a 40-year future, yielding a rate like the nation knew in 1960, over 50 percent.

Establishing state policies with a target and date for increased walking/biking rates to school would complement auto reduction targets. Together they would enable parents, students, schools, and other public agencies to marshal resources and know when they had achieved success. The absence of walking/biking to school targets enables decision makers to overlook non-motorized options for reducing auto congestion around schools.

- *Expand and Safe Routes to School and exploit it as an auto congestion reduction program.*

The Safe Routes to School program is primarily viewed and implemented as a child safety and physical activity program. As the Go! and Mt. Vernon programs demonstrate, it can also be effective at reducing auto congestion around schools[12]. To realize the program's potential and multiple dimensions, it should be aligned with the suite of WSDOT transportation demand efforts and related to auto use reduction targets as described above. The Safe Routes to School program is currently aimed at K-8 schools, but safe pedestrian routes to high schools, as well as education and encouragement for high school students to consider non-auto modes of transportation, could also benefit high schools.

- *Relate school siting and performance standards to state laws reducing VMT, GHG emissions, and commute trips.*

In the 19th and early 20th centuries, schools were built at the center of neighborhoods and communities in prominent locations. Their location symbolized the importance of education to the community and to the uniquely American institution of free public schooling for all. By the mid-20th century, a new suburban or greenfields design standard was adopted by many states, requiring large campuses of 20 acres for middle schools and 40 acres for high schools. Built on cheap land at the metropolitan fringe, this school

[12] Marin County, California's, Safe Routes to School program decreased SOV trips by 39 percent in its first two years and has seen continued reductions since. (Pages 65-66, Phase 1 Report.)

archetype was accessible primarily by private car or yellow school bus, not by public transportation, walking, or bicycling. In Washington state, the Office of Superintendent of Public Instruction (OSPI) does not *require* this model, leaving the decision to local school districts. The state could go a step further, indicating a preference for schools to be located on major transit routes or within walking distance of a large student population[13] and relating this to the Growth Management Act and Growth Transportation and Efficiency Standards. The High Performance Public Building Act awards points for locating new schools near public transit, providing bicycle paths and parking, minimizing the number of parking stalls, and providing preferred parking for carpool or alternative fuel vehicles. These same performance standards should be applied to existing schools.[14]

- *Require all colleges and universities to adopt universal/unlimited access transit pass programs.*

The University of Washington was a national pioneer of a unlimited access transit pass program called U-Pass. For a monthly fee students, faculty, and staff receive a pass that provides pre-paid regional transit service, reduced parking rates for days that transit does not operate, and a guaranteed ride home after regular business hours. On- and off-campus parking rates are adjusted upward to market rate. The results have been dramatically increased transit service and ridership, reduced car usage and auto congestion around the school, and reduced need for on-campus parking lot development[15]. The unlimited access model has been successfully copied nationwide. It

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[13] Efforts to make schools more accessible by public transit, walking, and bicycling are made more difficult by the inexorable march of school consolidation and closures over the past 80 years. In 1930 there were 260,000 elementary and secondary schools in the United States. By 1960 the number had decreased to 116,000, due primarily to consolidation of many smaller elementary schools. By 1990 there were about 85,000 elementary and secondary schools (Carlson, 1991). Budget constraints in urban and suburban school districts lead to closures of schools, especially smaller, neighborhood-oriented elementary schools. A 600-student school requires the same principle and administrative staff as a 300-student school. The irony is that smaller neighborhood schools are most appropriate for walking and bicycling.

[14] School siting and smart growth principles are significant issues in California. The recent paper titled *Integrating Infrastructure Planning: The Role of Schools* by Deborah McKoy and Jeffrey Vincent, directors of the Center for Cities and Schools at the University of California, Berkeley, stresses the importance of public school infrastructure in shaping urban growth and the negative consequences of California's exemption of school districts from greenhouse gas emissions limits, local zoning requirements, and institutional cooperation with other districts and municipalities. Their research concludes that "school locations affect how children and staff get to school, which affects local traffic, congestion, and pollution." The article appeared in the fall 2008 issue of *Access* a publication of the University of California Transportation Center.

[15]According to the 2006 U-PASS Annual Report, 33 percent of the campus population drove alone to work before the U-PASS program started, and in 2006, that number dropped to 22 percent. Despite a 22 percent growth in employee and student populations, University-related peak hour traffic remains below 1990 levels. Furthermore, there has been a 41 percent reduction in the number of SOV parking permits issued,

has also been initiated, in partial form, by students at Western Washington University and at Central Washington University (both described in more detail in this report). Community colleges and commuter colleges are reluctant to implement a universal pass /unlimited access program. A key reason is that ease of driving and parking is a competitive advantage for community colleges in recruiting working students, and each school fears losing students if they impose fees or parking restrictions. The state could level the playing field by requiring all two- and four-year colleges and universities to develop universal pass or unlimited access programs. Furthermore, the state should mandate that the programs include both the increased transit service and increased parking costs on and near campus that are modeled in the U-pass. Without these two dimensions working in tandem, the program's potential to reduce auto congestion is reduced.

FINANCIAL NOTE

What are the financial implications of pursuing these recommendations? While this report was not charged with nor undertook financial analyses of Programs of Interest or recommendations, some choices could save funds and others may require funds. This financial note provides general guidance about the cost implications of the recommendations with an awareness that the state needs to reduce its general budget during the coming biennium.

The state legislature will need no new funds to set auto reduction targets around schools linked to VMT reduction targets already in place. The same is true for establishing walking and biking targets. Such targets will require schools and localities to take actions to achieve the targets, but as the program descriptions reveal, some Programs of Interest save money and some cost money. Those saving money include university unlimited access pass programs. They reduce the need to construct new parking structures on campus, saving millions of dollars while generating new parking revenue that helps support the pass program itself. Whidbey Island school districts could substantially reduce their school transportation budgets if Island Transit routes were better coordinated and parents and students could take more Island Transit fare-free buses to and from school. Prohibiting car drop-off zones directly in front of schools and providing preferential parking for carpooling would have minimal, if any, costs. Charging for student parking at high schools could generate modest revenue. And placing bicycle racks in prominent, attractive locations on school grounds would cost little if anything.

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and the number of parking spaces used has declined since the program's inception. See Phase 1 report pages pgs. 34-36, 52 for more information.

Expanding the Safe Routes to School program would entail additional funds from both the state and federal governments. The state allocated $3 million in 2005-06, and $7 million in 2007-09. There were many more applicant schools and municipalities than received awards. Many of these projects are ready to go and could qualify as infrastructure safety improvements under the federal economic stimulus package proposed for 2009. The education and encouragement elements of the Safe Routes to School program would need additional funding beyond highway and sidewalk construction that may be covered under infrastructure. Changing state school siting requirements to concentrate construction in centers would likely increase costs of land and construction. This general guidance will require more detailed financial analysis as Programs of Interest are adapted to individual situations.

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A complete list of references that informed Phase 1 and Phase 2 of this study can be found in the Transportation Demand Strategies for School Phase 1 report, available at: http://depts.washington.edu/trac/researchreports/catalog.html

APPENDIX A: PROGRAMS OF INTEREST SUMMARY TABLES

ELEMENTARY SCHOOL

Go! Program

Description	**Program**			
	Structure	*Model*	*Objective*	*Strategy for Change*
Funded by WSDOT Safe Routes to School this program addresses the unique needs of each school by working with stakeholders to design their own walk or bike to program through a community involvement process based on the five E's: Engineering, Education/ Encouragement, Enforcement and Evaluation.	Nonprofit supported parent teacher volunteers	Comprehensive Family and School Program (Marin County)	Increase the school-wide percentage of students walking (goal is 25%) and carpooling to school and decrease the percentage of students who arrive at schools by car.	Emphasizing walking in schools will create excitement among students and behavioral changes. Parent engagement in the program's design will increase appropriateness for the school and participation. Together these efforts will reduce car traffic at schools.

Learning Objective	**Implementation**	
	Principal Components	*Management*
Learn about the differences in strategies and achievement rates at elementary and middle schools and the differences in achievement rates between schools of various incomes and socioeconomic statuses.	Activities included walk to school events and weekly walking days, incentives, presentations to parents and community members, sidewalk and crosswalk improvements, bicycle facilities, and police traffic enforcement.	Feet First, an advocacy and action organization for walkable communities, organized Go! activities in conjunction with parent and faculty volunteers at Sanislo Elementary, West Seattle Elementary and Denny Middle School.

Phantom Lake Elementary PTA Walk to School Program

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
A parent led effort promoting walking to school with through maintenance of a weekly walk to school day.	Parent Volunteer	Comprehensive Family and School Program (Marin County)	Increase the number of students walking to school and reduce student drop-offs and pick-ups to reduce car congestion around school.	A parent led effort promoting walking to school can draw on parents' varied interests for their children to walk (health, environmental, neighborhood awareness) to increase the number of students walking to school and reduce auto traffic near school.

Learning Objective	**Implementation**	
	Principal Components	*Management*
Learn how a volunteer, parent-led program differs from a program based out of a nonprofit, school or government.	School-wide walk to school event, weekly Walking Thursdays and exploration of additional initiatives.	Volunteer led by a PTA parent.

Mt. Vernon Walk to School Program

Description	**Program**			
	Structure	*Model*	*Objective*	*Strategy for Change*
Visioned through a Healthy Communities grant from the CDC and implemented with a Safe Routes to School Grant from WSDOT this program sought to increase regular activity among elementary students by creating a "hub and spoke" walking school bus along with safety improvements and education.	Led by hospital staff/ public health organizer in partnership with city agencies	Walking School Bus, Healthy Communities, Safe Routes to Schools (Marin County)	Short Term: 10% increase in number of children walking to schools. Long Term: decrease in parents who drive their children to school. Overall increased physical activity for children leading to less obesity.	More children will walk to school—with the attendant benefits of increased physical exercise and reduced auto congestion around schools—if the fears of traffic and stranger danger and distance are addressed by a hub drop-off location and parent- supervised walking school buses. A coalition of partners can address all of the issues that make walking to school feasible.

Learning Objective	**Implementation**	
	Principal Components	*Management*
Learn how a hospital and diverse institutional stakeholders, such as the city, hospital, police, and schools, worked together to implement the program as well as lessons on the impact of a hub and spoke walking school bus model.	Walking school bus that uses a "hub and spoke" approach whereby families can drop off students a 1/2 from school to join a walking school bus, sidewalk improvements, and pedestrian safety instruction in physical education classes.	Skagit Valley Hospital, which manages the Mt. Vernon Healthy Communities Project, leads walk to school efforts and put together the team that applied for their Safe Routes to School Grant. The current advisory committee includes city transportation and law enforcement and the school district.

HIGH SCHOOL

Seattle Public Schools High School Transit Pass

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Seattle Public Schools adopted a school bus replacement program, substituting Metro transit passes for yellow bus service for some transportation eligible students.	School District with some transit agency coordination	Education and Encouragement + Universal Pass (Way to Go - Roosevelt High School)	Reduce the cost of transportation to the district and to provide transportation flexibility to students and start time flexibility to schools.	Metro passes increase student's transportation options. Transit service gives students flexibility before and after school which will reduce the need for car travel.

Learning Objective	**Implementation**	
	Principal Components	*Management*
Assess if and how transit passes, as a substitute for yellow bus service, changes student's tendency to drive or get rides to and from school.	Monthly transit passes for students who live at least 2.5 miles from school with adequate metro service between their neighborhood and school.	The school district transportation department administrators every school's transportation program. Each school is responsible for distributing passes to eligible students.

Mobility Education

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Mobility education is a program to enhance Traffic Safety Education with multi-modal instruction for high school students.	Nonprofit	Teen Mobility (West Seattle High School)	Provide students a more complete menu of transportation options to reduce student's use of cars to commute to school and outside school.	Non-motorized and transit education for new drivers will stimulate bus, bike, and pedestrian mobility choices and safe driving. This education may rub off on parents or be reinforced at home.

Learning Objective	Implementation	
	Principal Components	*Management*
How to supplement driver education with mobility education and how parent involvement encourages behavior change	Education and training for students and parent in being a pedestrian, bicycling and using transit.	The nonprofit Mobility Education Foundation

Whidbey Island School Districts / Island Transit

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Funded as part of the Transportation Demand Strategies for Schools study. Four parent focus groups and seven student focus groups are held in Whidbey Island's Coupeville and South Whidbey school districts.	Organized by study staff, with the cooperation of school and transportation districts.	Focus groups used in public policy and academic research for problem identification.	To inform school district and transit agency directors about parent and student transportation attitudes and behavior to identify ways to reduce congestion and increase efficiency .	Better understanding of the issues, factors, and barriers that go into the choices that high school students and parents of middle and elementary school children make regarding getting to and from school will lead to more effective trip reduction strategies and solutions.

Learning Objective	Implementation	
	Principal Components	*Management*
To understand what factors, issues, and barriers lead high school students and parents of younger students to make the decisions that they do regarding getting to and from school, and what changes might make them more likely to use alternative modes of transportation to get to and from school.	Four parents and seven student focus groups, and a final report (a version of which is a part of this report) which will be presented to the school districts and Island Transit.	The focus groups were managed by UW researchers, with support the school districts and transit agency, as was the subsequent analysis and development of the report. Any resulting programs will be managed by Coupeville and South Whidbey school districts and Island Transit.

KINDERGARTEN-12

SchoolShare Ride/Walk Sharing Website

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
SchoolShare is a secure website for parents/guardians seeking to connect with other parents/guardians in their area to share transportation to and from school by providing listings of nearby families and an email communication tool as well route mapping and trip diary features for students.	Nonprofit manages technical aspect and volunteer provides encouragement	Ride Matching (Contra-Costa, Cal.)	Increase the number and frequency of students walking, biking, and carpooling to school. Reduce car traffic near schools. Improve student health. Improve student safety.	A one-stop trip-sharing website will improve parents' interest and ability to coordinate walking, biking, and carpools, which will reduce congestion around school. The benefits of trip-sharing are multi-fold including: safety and security for students, time and cost savings for parents and community building among all parties.

Learning Objective	Implementation	
	Principal Components	*Management*
Learn about parent interest and acceptance of this new tool, how to maximize its benefit and whether it can be expanded to additional schools.	For each user the website displays a list of families from their school anonymously in order of their proximity which they can contact through the website via email. Route mapping and trip tracking features for students.	Feet First, an advocacy and action group for walkable communities developed and manages SchoolShare. They hired a contractor to build the SchoolShare website and are working with individual schools and districts to increase the number of school participating.

Schools in GTEC

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Thurston Regional Planning Council is exploring how to incorporate schools into the Growth and Transportation Efficiency Center (GTEC) in Olympia to improve transportation efficiency.	Regional Planning Council in cooperation with city agencies and individual schools		Encourage walkers, bicycle and bus riders, reduce congestion; demonstrate the steps to develop sustainable programs in schools and the barriers, the opportunities and the partnerships necessary for success.	Compliment and capitalize on GTEC status and programming by creating a school trip reduction program that articulates clear goals, uses expert advice and is responsive to parents, students and school staff. Create and implement the program through school and community partnerships. Continually measure, evaluate and improve the program.

Learning Objective	Implementation	
	Principal Components	*Management*
Learning opportunities for the Transportation Demand Strategies (TDS) for Schools study include: 1) best practices for determining how Commute Trip Reduction can involve schools in GTEC areas and 2) how different institutions work together to achieve results in the demonstration schools.	Research with key stakeholders in schools and school administration and partnerships with GTEC affiliates such as public works and the transit agency and community organizations to support a trip reduction events and programs .	Thurston Regional Planning Council (TRPC), the City of Olympia Public Works Department and Intercity Transit are all partners in the GTEC grant and form the committee responsible for implementing their school trip reduction strategies as well. The TRPC is the lead agency.

COLLEGE / UNIVERSITY

Western Washington University's Viking Xpress Pass and Student Transportation Program

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Student initiative to create a mandatory student fee to fund a universal transit pass, late night shuttle and student transportation coordinator.	University, student government and transit agency partnership	Universal Pass (UW and CU)	Short Term: Stabilize transit pass price and improve service, enhance students' role in transportation decisions, and reduce parking demand; Long Term: Reduce students driving to school and the need for new parking facilities and car ownership.	A mandatory, pre-paid pass coupled with improved and expanded service will increase new transit users and ridership among existing users, reducing commute trips by SOV. Having an Associated Students staff member on the program improves responsiveness to student concerns and the effectiveness of the program. A night shuttle will reduce the need for students to own cars and thus their ability to drive to campus.

Learning Objective	Implementation	
	Principal Components	*Management*
This study sought to learn how a mandatory prepaid transit pass coupled with a new night shuttle and a paid student transportation representative affects congestion around campus.	New $25 per quarter student fee to fund: Mandatory pre-paid transit pass, new student position to assure accountability in use of new student fee and inform student government, late night shuttle.	Administered by Office of Sustainable Transportation. Created by partnership between the university administration, student government and the Whatcom Transit Authority.

Central Washington University's Central Transit

Description	Program			
	Structure	*Model*	*Objective*	*Strategy for Change*
Central Transit is a transportation system developed by Central Washington University (CWU) that connects students to campus and the Ellensburg business district.	University and nonprofit partnership	Pre-paid transit (Island Co.)	Reduce the number of students using cars on and around campus and reduce demand for parking as well as improve student access to employment and recreation.	Regularly scheduled HOV service between campus, residential areas and the business district coupled with reduced availability of on-campus parking permits will reduce the number of students bringing cars to school and reduce car use, which will result in decreased congestion in and around campus.

Learning Objective	Implementation	
	Principal Components	*Management*
To explore how students can be served by fixed-route, HOV service in the absence of a public transit agency.	Pre-paid transit system that allows students as well as the general public to travel to and from campus, commercial outlets and a residential area north of campus with no boarding fare required.	Central Transit is managed by the CWU Police and operations are contracted to the human service organization HopeSource. Other nonprofits and the city government some support as well.

APPENDIX B: PROGRAMS OF INTEREST DIRECTORY

PROGRAM	CONTACT / WEBSITE
Elementary and Middle School	
Go! – Feet First	Jen Cole, Safe Routes to School Program Director, jen@feetfirst.info / http://www.feetfirst.info
Mt. Vernon Walk to School Program	Liz McNett-Crowl, Coordinator of Mount Vernon Healthy Communities Project, LCrow@skagitvalleyhospital.org
Phantom Lake Elementary PTA Walk to School Program	Juliet Powell, PTA Parent, julietpowell@yahoo.co.uk / http://phantomlakepta.org
High School	
Schools in GTEC - Thurston Regional Planning Council (TRPC)	Kathy McCormick, Senior Planner, mccormk@trpc.org / http://www.trpc.org/
High School Transit Pass – Seattle Public Schools	Tom Bishop, Transportation Manager, transdept@seattleschools.org / http://www.seattleschools.org/area/transportation/index.dxml
Mobility Education – Mobility Education Foundation	David Levinger, President, david@mobilityeducation.org / http://www.mobilityeducation.org/
K-12	
Whidbey Island School Districts/ Island Transit	Martha Rose, Executive Director, rose@islandtransit.org / http://www.islandtransit.org/
SchoolShare Ride/Walk Matching Website	Jen Cole, Safe Routes to School Program Director, jen@feetfirst.info / http://www.feetfirst.info
WWU – Xpress Pass and Student Transportation	Carol Berry, _Sustainable Transportation Program Manager, Carol.Berry@wwu.edu / http://transportation.as.wwu.edu/
CWU – Central Transit	Kevin Higgins, Captain, Public Safety & Police Services, kevhig@cwu.edu / http://www.cwu.edu/~police/transit_map.html

APPENDIX C: UW RESEARCH TEAM ACTIVITY AND DOCUMENTS

WHIDBEY ISLAND SCHOOL DISTRICTS / ISLAND TRANSIT

The UW planned and facilitated a meeting between interested school district superintendents and Island Transit leadership to understand each organization's transportation policies and programs and to discuss the most effective methods for gathering information from parents or students. WSDOT funded skilled UW staff to conduct focus groups with parents and students to explore transportation choices and attitudes toward yellow buses and transit. The UW research team presented and shared findings to the participating school districts and transit agency.
Documents available:

- Focus group guide
- Focus group findings

WWU – XPRESS PASS AND STUDENT TRANSPORTATION

The UW study team worked with WWU's Sustainable Transportation Office to understand the program's goals and design an electronic survey and other instruments to measure progress. These included traffic volume counts, a transportation survey of the entire student body, and transit ridership data. WWU students were employed to gather the data, and the UW study team analyzed the data and prepared a report for the Sustainable Transportation Office.
Documents available:

- Questionnaire
- Report to the Sustainable Transportation Office analyzing survey results.

FEET FIRST– SCHOOLSHARE WEBSITE

The UW research team worked with Feet First to design and evaluate SchoolShare. The UW led a facilitated group interview with parents, which WSDOT funded, and produced a report to Feet First. Additional WSDOT funding was dedicated to technical expansion of the site.
Documents available:

- group interview guide
- Group interview summary report

FEET FIRST – GO!

The UW research team designed a strategy to evaluate congestion at Go! schools. WSDOT provided funding, and the UW provided assistance in carrying out car counts.

SEATTLE PUBLIC SCHOOLS HIGH SCHOOL TRANSIT PASS

The UW created a strategy to assess the impact of transit passes at Seattle's public high schools and provided a survey instrument for a teacher student team to implement by using a supplement from WSDOT.

Document available:

- Questionnaire

APPENDIX D: POLICY ISSUES FOR FURTHER RESEARCH

YELLOW SCHOOL BUSES

Their mission, purpose, strengths and weaknesses, and role in reducing auto traffic and increasing physical activity

Everyone is familiar with the yellow school bus, an enduring symbol of America's free public education system. But familiarity does not substitute for understanding. Is the school bus the safest mode of transport to school? Who uses it (by age group; by household income level)? How are buses deployed in urban, suburban, and rural settings? Can school bus system management help to increase walking and bicycling to school? Does carpooling erode the market for school buses?

These and many other questions offer a fertile ground for a comprehensive examination of the role that school buses play today and could play in the future in efforts to transport students safely to school, reduce congestion around schools, and increase walking and bicycling rates among the school age population in Washington state. Such a study could greatly inform the TDM Strategies for Schools project but is beyond its scope and budget. It would be useful to state and local school districts in allocating scarce education funds

SCHOOL SITING AND AUTO TRAFFIC AROUND SCHOOLS:

C*urrent policies and future considerations*

Large schools often require sites farther from residential areas and public transportation, which hinders walking, biking, busing, and carpooling to school. Some of the contributing factors are the following:

Size

The State of Washington has guidelines, rather than requirements, for square footage of schools, and there is no minimum square footage requirement. The state provides matching funds to the school district for new construction or renovation per square foot up to the following levels: K-6 90 sq. ft. 7-8 117 sq. ft. 9-12 130 sq. ft. What is the impact on school size of providing matching funds on the basis of square footage?

Acreage Guidelines

K-6 - Five acres plus one acre for every 100 students 7-12. Ten acres plus one acre for every 100 students. Many school districts do not realize that these are only recommendations and, instead, treat them as requirements. In an attempt to begin addressing these problems, OSPI held a

School Siting Summit in December 2006. How can OSPI be sure that districts have proper information on which to make their school siting decisions?

Parking

Parking availability is directly linked to SOV use. There is no statewide requirement for parking. Local government planning departments have their own school parking standards. Special event parking significantly raises the need for parking on a few days during the year. What are the effects of high school parking policies on single occupancy vehicles?

Recent Legislation

The High Performance Public Building Act requires that all major facility projects of public school districts receiving funding from a state capital budget must meet at least the LEED silver standard or the Washington Sustainable School Design Protocol (WSSDP). This goes into effect for Class 1 (>2000 students) school districts in July 2007 and for Class II (<2000 students) school districts in July 2008. Points toward both certifications can be earned for locating a school near public transit, providing bicycle paths and parking, minimizing the number of parking stalls, and providing preferred parking for carpool or alternative fuel vehicles.

What opportunities exist to use the HPPB Act to advocate for smart siting policies?

Deborah McKoy and Jeffrey Vincent, directors of the Center for Cities and Schools at the University of California, Berkeley, pose these questions for further research[16]:

- Could smaller schools located closer to homes reduce the need for school busing and parental driving, allowing more students to walk or bike to school?
- Could higher density neighborhoods planned with schools also decrease busing and driving to school?
- Could infill projects, urban revitalization, and school upgrades bring more of the student population back to communities that have lost students, further reducing school transport needs and opening up public transport options for older students?

Reviewer Suggestions For Further Research

Reviewers from the Transportation Demand Strategies for School advisory group suggested exploration of the following policies and programs:

[16] Deborah McKoy, Jeffrey Vincent and Carrie Makarewicz, *Integrating Infrastructure Planning: The Role of Schools*, Access 33, Fall 2008, University of California Transportation Center, page 25.

Site policies:

- Separate parking & student drop off zone from prime walking route to and from main campus entrances to improve pedestrian safety.
- Establish minimum state standards for student bike parking (e.g.: covered secure racks or cages, visible to street) and quantity on public school campuses.

Student policies

- Encourage or require students to attend the most proximate school to their home.
- Orient parents of kindergarteners as they enter school to alternatives to car commuting to school before they establish commuting routines.
- Consider travel distance when assigning divisions and matches for interschool sports competitions.

Budget policies:

- Change the pupil transportation allocation so it does not encourage students to ride the bus at the expense of walking and biking.
- Allow flexibility in using pupil transportation allocation to fund multimodal student access to school, such as enhanced crosswalks and bike parking.
- Decouple mandatory student transportation fees from supporting free parking at colleges and universities.