



Chapter 1I

Funding/Implementation

This chapter outlines the funding sources which can be used to meet the needs of the of transportation system. The costs for the elements of the transportation system plan are outlined and compared to the potential revenue sources. Options are discussed regarding how costs of the plan and revenues can be balanced.

Transportation funding is commonly viewed **as** a user fee system where the users of the system pay for infrastructure through motor vehicle fees (such as gas tax and registration fees) or transit fares. However, a great share of motor vehicle user fees goes to maintenance, operation and preservation of the system rather than construction of new system capacity. Much of what the public views as new construction is commonly funded (partially or fully) through property tax levies, traffic impact fees and fronting improvements to land development. In Washington County, the Major Streets Transportation Improvement Program (**MSTIP**) and traffic impact fees (**TI**F - similar to system development charges - SDC) are key examples.

Motor vehicle fees have become a limited source of funding new transportation system capacity due to many factors

- **Gas** taxes have been applied on a cents per gallon basis not a real cost percent of true cost basis to the price of gasoline. Increases have not kept pace with cost of transportation needs. The Department of Transportation's Bureau of Transportation Statistics data indicates that in real terms the amount of federal gas tax paid by American households has actually declined by **41** percent from 1965 (when Interstate freeway building was at its peak) to 1995. That occurred with the real dollar gas tax increasing from **4** cents to **18.4** cents in the same time frame (although 4.3 cents per gallon were added for deficit reduction, not transportation in the last ten years).
- Oregon gas **tax** has not increased since 1992 (currently 24 cents per gallon) and registration fees have been at \$15 per vehicle per year for over ten years. Significant new roadway construction, particularly **from** development, has increased the inventory of roads and maintenance during this time. Additionally, the demands of region-wide growth have increased the need for capacity improvements in the system.
- Significant improvements in fuel economy over the last 15 years have reduced the relationship of user fee to actual use. For example, a passenger car with 12,000 miles of use in a year at 15 miles

per gallon could generate about \$350 per year in revenue using current federal, state and county gas **tax** levels (about **44** cents) compared to less than \$200 per year with a current 27 miles per gallon vehicle (a **45** percent reduction).

- The bill is coming due on many roads built 20 years ago in terms of maintenance. In the 1960s, the funds used for maintenance are dwarfed by current maintenance needs. Many of these roads are heavily used and the maintenance activities in the urban area have substantial impact on operation unless work is conducted in off-peak periods, increasing cost to maintain.

FUNDING

Funding Sources and Opportunities

There are several potential funding sources for transportation improvements. These are sources which have been used in the past by agencies in Oregon. In most cases, these funding sources when used collectively are sufficient to fund transportation improvements for local communities. Due to the complexity of today's transportation projects, it is necessary to seek several avenues of funding projects. Unique or hybrid funding of projects generally will include these funding sources, combined in a new package. Table 11-1 summarizes several funding options available for transportation improvements. Examples of funding sources which generally do not provide funding for roadways include: Property Tax General Funds, Car Rental Tax, Transient Lodging Tax, Business Income Tax, Business License Tax and Communication Services Tax.

The federal gas **tax** is allocated through ISTEA (Intermodal Surface Transportation Efficiency Act). The United States Congress is currently reviewing reauthorization of transportation funding. Federal transportation funds are distributed in the Portland region by Metro (hence the term "regional funds"). ISTEA funds are much more flexible than state gas tax funds, with an emphasis on multi-modal projects. ISTEA funds are allocated through several programs, including the National Highway System (NHS), Surface Transportation Program (**STP**) and Congestion Management and Air Quality (CMAQ) Improvement Programs. NHS funds focus on the interstate highway system and CMAQ funds are targeted for non-attainment areas.

Within the Portland region, funding for major transportation projects is typically brought to a vote of the public for approval. Specific projects are outlined for use of public funds, such as the Major Streets Transportation Improvement Program (MSTIP) in Washington County or the Westside Light Rail Project. Because of the need to gain public approval for transportation funding, it is important to develop a consensus in the community which supports needed transportation improvements. That is the value of the Transportation System Plan. In most communities, where time is taken to build a consensus regarding a transportation plan, existing funding sources (similar to those noted) can be redefined to meet the needs of the community.

In Beaverton, the new **tax** base levy included approximately \$1 million per year for three years for neighborhood traffic management and traffic signalization. While this is not a secure long-term funding source, it reinforces the public's ability to approve funding when needs are clearly present.

**Table 11-1
Potential Transportation Revenue Sources**

Type	Description
System Development Charges (SDC)	SDCs or Traffic Impact Fees have been used in Oregon and throughout the United States. The cornerstone to development of SDCs involves two principals: 1) there must be a reasonable connection between growth generated by development and the facilities constructed to serve that growth (generally determined by level of service or connectivity); and 2) there must be a general system-wide connection between the fees collected from the development and the benefits development receives. Charges are typically developed based on a measurement of the demand that new development places on the street system and the capital costs required to meet that demand. Washington County has a traffic impact fee (TIF) which was voter approved. SDCs do not require a vote of the public.
Gas Tax	The State, cities and counties provide their basic roadway funding through a tax placed on gasoline. State gas tax is approved legislatively while local gas taxes are approved by voters. State funds are dedicated to roadway construction and maintenance, with one percent allocated to pedestrian and bicycle needs. This tax does not fall under the Measure 5 limits, because it is a pay-as-you-go user tax . Washington County has a one percent gas tax and has considered a recent ballot initiative to increase this tax in 1997.
Other Motor Vehicle Fees	The state collects truck weight mile taxes , vehicle registration fees, and license fees. These funds are pooled together with the gas tax in distributing state motor vehicle fees to local agencies. Annual motor vehicle fee allocations to Washington County amount to about \$100 million (including gas tax). Washington County is currently considering raising motor vehicle registration by \$15 per year.
Street Utility Fees	Certain cities have used street utility fees for maintenance. The fees are typically collected monthly with water or Sewer bills. These funds are not for capacity improvements, but for supporting local roadway maintenance based upon land use type and trip generation . This free s other revenue sources for capacity needs. Utility fees can be vulnerable to Measure 5 limitations, unless they include provisions for property owners to reduce or eliminate charges based on actual use.
Exactions	Frontage improvements are common examples of exaction costs passed onto developers. These have been used to build much of Beaverton's local street system. Developers of sites adjacent to unimproved roadway frontage are responsible to provide those roadway improvements. Developers of sites adjacent to improvements identified as SDC projects can be credited the value of their frontage work , which is included in the SDC project-list cost estimate.
Local Improvement Districts (LID)	LIDs provide a means for funding specific improvements that benefit a specific group of property owners'. LIDs require owner/voter approval and a specific project definition. Assessments are placed against benefiting properties to pay for improvements . LIDs can be matched against other funds where a project has system wide benefit , beyond benefiting the adjacent properties. Fees are paid through property tax bills.
Special Assessments	A variety of special assessments are available in Oregon to defray costs of sidewalks, curbs, gutters, street lighting, parking and CBD or commercial zone transportation improvements . These assessments would likely fall within the Measure 5 limitations. In Washington County, other examples of transportation assessments include MSTIP (Major Streets Transportation Improvement Program) and the local maintenance property tax levy. Both of these are property tax assessments which have been imposed through votes of the public. A regional example would be the Westside LRT where the local share of funding was voter approved as an addition to property tax
Driveway Fees	Gresham collects a Public Street Charge and a Driveway Approach Permit Fee. These fees are project specific and vary year to year based upon development permits. These funds are used for city maintenance and operation.
Employment Taxes	Tri-Met collects a tax for transit operations in the Portland region through payroll and self employment taxes. Approximately \$120 million are collected annually in the Portland region for transit.
Oregon Special Public Works Fund	The Special Public Works Fund (SPWF) Program was created by the legislature in 1985 as an economic development element of the Oregon Lottery. The program provides grants and loan assistance to eligible municipalities. There has been limited use of these funds on urban arterials. This is commonly used on state highways (a recent example being Immediate Opportunity Funds used for the US 26/Shute interchange associated with Nike)

COSTS

Order of magnitude cost estimates were developed for the projects identified in the auto, bicycle and pedestrian elements. Costs estimates from the RTP or MSTIP projects in Beaverton were used in this study. Other projects were estimated using general unit costs for transportation improvements, but do not reflect the unique project costs that can (on some projects due to right-of-way, environmental mitigation and/or utilities) significantly add to project cost (25 to 75 percent in some cases, due to environmental, utility or right-of-way issues). Development of more detailed project costs can be prepared in the future with more refined financial analysis. Since many of the project overlap elements of various modes, the costs were developed at a project level incorporating all modes, as appropriate. It may be desirable to break project mode elements out separately, however, in most cases, there are greater cost efficiencies of undertaking a combined, overall project. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued. Table 11-2 summarizes the elements of the plan which were not project specific and how costs will be addressed for these elements.

Tables 11-3, 11-4 and 11-5 summarize the key projects in the TSP by three key groups including:

- Bicycle Improvements
- Pedestrian Improvements
- Motor Vehicle Improvements

Many of the project costs have been developed by Washington County, Metro or ODOT for projects in the RTP. Where the TSP identified the comparable needs, these project costs have been utilized.

**Table 11-2
Issues With Non-Auto, Pedestrian and Bicycle Costs**

Mode	Issues
Parking	The TSP does not define specific projects. Off-street parking will be provided by private property owners as land develops. Downtown area parking issues will need to be addressed based upon needs, using packaged funding including local and private sources.
Neighborhood Traffic Management	Specific NTM projects are not defined. These projects will be subject to neighborhood consensus, based upon City of Beaverton design criteria. A city NTM program should be developed with criteria and policy adopted by the City Council. Humps/undulations can cost \$2,000 to \$4,000 each and traffic circles can cost \$3,000 to \$8,000 each. A speed trailer can cost about \$10,000. Based upon this, a limited program could cost \$75,000 per year, depending upon neighborhood needs. If this cost were entirely funded through the city, implementation may lag behind neighborhood needs. If private cost sharing (or matching funds) is established as a criteria for the neighborhoods, the program could become more comprehensive. Value provided by NTM should be considered by the City in determining whether to pursue non-public funds. It is important that any new development incorporate elements of NTM as part of its on-site design.
Public Transportation	Tri-Met will continue to develop costs for implementing transit related improvements. The City can supplement this by incorporating transit features through development exactions and roadway project design. Developing new transit services in Beaverton similar to the corridor services outlined in the TSP will require Tri-Met to reallocate funding or seek additional sources of operating funds.
Trucks/Freight	Roadway funding will address these needs. Roadway overcrossings of railroads can use special PUC funds set aside for safety improvements to railroad crossings.
Rail	Cost to be addressed and funded by private railroad companies and the state.
Air, Water, Pipeline	Not required by City.
Transportation Demand Management	Requirements of TDM will need to be exacted as conditions of development. Costs could range from \$25,000 to \$75,000 per year. DEQ will be establishing regional guidelines. Private business will need to support employee trip reduction programs.

**Table 11-3
Pedestrian Action Plan Project List**

Project	From	To	Approximate Cost (\$1000's dollars)
<i>Priority: Connect key pedestrian corridors to schools, parks, recreational uses and activity centers</i>			
155 th Avenue	Davies Road	Nora-Beard Road	357
<i>Priority: Fill in gaps in pedestrian network</i>			
Farmington Road/B-H Highway	Hocken Avenue	Erickson Avenue	42
Beaverton-Hillsdale Hwy (north side)	91 st Avenue	Laurelwood Avenue	64
TV Highway/Canyon Road (gaps on one-side)	170 th Avenue	87 th Avenue	323
158 th Avenue (east side)	Blue Ridge Drive	approx 500 ft south	30
Cedar Hills Boulevard (west side)	Walker Road	Park Way	87
Cedar Hills Boulevard	Park Way	Butner Road	90
Murray Boulevard	Jenkins Road	Millikan Way	270
Denney Road	Nimbus Avenue	Scholls Ferry Road	210
Allen Boulevard (gaps)	Western Avenue	Scholls Ferry Road	60
Western Avenue	5 th Street	800 feet south of 5 th	48
5 th Street (south side)	Alger Avenue	Western Avenue	117
6 th Street/Division Street	Murray Boulevard	170 th Avenue	318
Davies Road (east side)	Scholls Ferry Road	Hiteon Drive	66
Scholls Ferry Road/Old Scholls Ferry Road (gaps)	Scholls/Old Scholls (west end)	Beaverton-Hillsdale Highway	1,650
SW Park Way (gaps)	Walker Road	ORE 217	186
110 th Avenue (gap-one side)	Beaverton-Hilldale Hwy	Canyon Road	30
<i>Priority: Pedestrian corridors to transit stations and stops</i>			
153 rd Drive	Jenkins Road	Light Rail Transit	114
Connection Roadway	153 rd Avenue	Murray Boulevard	84
Millikan Way	Murray Boulevard	Hocken Avenue	180
160 th Avenue	TV Highway	Davis Road	312
117 th Avenue	Light Rail Transit	Center Street	30
Downtown Beaverton Connectivity collector roadways	Hocken Avenue/TV Highway	110 th Avenue/Cabot Street	900
Lombard Avenue	Center Street	Beaverdam Road	60
Jay Street	158 th Avenue	Jenkins Road	126
125 th Avenue	Hall Boulevard	Brockman Road	168
Farmington Road	Murray Boulevard	172 nd Avenue	346
Farmington Road	172 nd Avenue	185 th Avenue	190
Nimbus Avenue	Denney Road	Cirrus Drive	120

Project	From	To	Approximate Cost (\$1000's dollars)
Walker Road	ORE 217	Canyon Road	182
Walker Road (gaps)	173 rd Avenue	Mayfield Avenue	384
Davies Road	Old Scholls Ferry Road	Scholls Ferry Road	53
Murray Boulevard	Old Scholls Ferry Road	Scholls Ferry Road	96
Millikan Way	Hocken Avenue	Cedar Hills Blvd	50
170 th Avenue	Rigert Road	Alexander Street	449
170 th Avenue	Alexander Street	Baseline/Jenkins	319
170 th /173 rd Avenue	Baseline/Jenkins Road	Walker Road	192
173 rd Avenue	Walker Road	Cornell Road	206
173 rd Avenue	Cornell Road	Bronson Road	48
Hart Road/Bany Road (gaps)	Murray Boulevard	170 th Avenue	206
Hart Road (gaps)	Hall Boulevard	Murray Boulevard	43
Cornell Road (one-side)	158 th Avenue	185 th Avenue	144
Baseline Road	158 th Avenue	166 th Avenue	96
Oak Street/Davis Road/Allen (gaps)	Murray Boulevard	170 th Avenue	144
Allen Boulevard (gaps)	Alice Lane	Western Avenue	98
Nora-Beard Road	175 th Avenue	155 th Avenue	245
Weir Road	175 th Avenue	160 th Avenue	216
175 th Avenue-Rigert Road	170 th Avenue	ORE 210	658
Merlo Road/158 th Avenue (gaps)	Jay Street	Walker Road	53
Jenkins Road	153 rd Avenue	Murray Boulevard	98
Hart Road/Bany Road	170 th Avenue	185 th Avenue	187
SW Beaverton collector roadway	Scholls Ferry Road	175 th Avenue	302
SW Beaverton circulation roadway	High Hill Lane	Nora-Beard Road	240
Priority: Pedestrian corridors that connect neighborhoods			
SW Butner Road (one side)	Murray Boulevard	Park Way	258
SW Downing Road (gaps on south side)	Murray Boulevard	Meadow Drive	36
Meadow Drive (one side)	Downing Road	Walker Road	33
Laurelwood Avenue/87 th Avenue	Canyon Road	Scholb Ferry Road	378
Jamieson Road	Pinehurst Drive/Cypress	Scholls Ferry Road	180
Cypress Street	Jarnieson Road	Elm Avenue	69
Sexton Mountain Drive (gaps)	Maverick Terrace	Nora-Beard Road	258
96 th Avenue (one side)	Canyon Road	Beaverton-Hillsdale Highway	78
Pedestrian Action Plan Projects Total Cost:			\$ 12,583

**Table 11-4
Bicycle Action Plan Project List**

Project	From	To	Approximate cost (\$1000's of dollars)
<i>Priority: Connect key bicycle corridors to schools, parks, recreational uses and activity centers</i>			
Greenway Road bike lanes	Hall Boulevard	approx. 200 feet east of Downing	214
155 th Avenue/Weir Road bike lanes	Davis Road	Murray Boulevard	1,037
Millikan Way/160 th bike lanes	Murray Boulevard	TV Highway	454
Millikan Way/160 th bike lanes	TV Highway	Davis Road	438
125 th Avenue	Scholls Ferry Road	Brockman Road	277
Canyon Road	142 nd Avenue	91 st Avenue	1142
<i>Priority: Fill in gaps in bicycle network</i>			
Greenway/Brockman bike lanes	125 th Avenue	approx 200 ft east of 125 th Avenue	17
Hall Boulevard bike lanes	Greenway	ORE 217	311
Hall Boulevard bike lanes	12 th Street	900 ft south of Allen	134
Hall Boulevard bike lanes	Beaverton-Hillsdale Hwy	Cedar Hills Blvd	68
Watson Avenue bike lanes	Beaverton-Hillsdale Hwy	Hall Boulevard	59
Cedar Hills Boulevard bike lanes	Farmington Road	Walker Road	441
Cedar Hills Boulevard bike lanes	US 26	Foothill Drive	84
6 th Street bike lanes	Murray Boulevard	Menlo Drive	210
Murray Boulevard bike lanes (west side of Murray Boulevard)	Farmington Road	approximately 200 ft south of TV Highway	42
Denney Road bike lanes	Bel Aire Drive	Scholls Ferry Road	319
Allen Boulevard bike lanes	approximately 200 ft east of Western Avenue	Scholls Ferry Road	193
Western Avenue bike lanes	Beaverton-Hillsdale Hwy	Allen Boulevard	294
Beaverton-Hillsdale Hwy bike lanes	Western Avenue	91 st Avenue	235
91 st Avenue bike lanes	Beaverton-Hillsdale Hwy	Canyon Road	249
Old Scholls Ferry Road	Murray Boulevard	175 th Avenue	781

Project	From	To	Approximate cost (\$1000's of dollars)
<i>Priority: Construct bike lanes with roadway improvement projects</i>			
125 th Avenue bike lanes	Hall Boulevard	Brockman Road	263
Farmington Road bike lanes	Murray Boulevard	172 nd Avenue	540
Farmington Road bike lanes	approximately 500 ft east of Lombard	approximately 500 ft west of Lombard	75
Walker Road bike lanes	ORE 217	Canyon Road	285
Walker Road bike lanes	Cedar Hills Boulevard	Lynnfield Lane	131
Walker Road bike lanes	178 th Avenue	185 th Avenue	270
Millikan Way bike lanes	Hocken Avenue	Cedar Hills Blvd	79
170 th Avenue bike lanes	Rigert Road	Alexander Street	701
170 th /173 rd Avenue bike lanes	Baseline Road	Walker Road	300
170 th Avenue bike lanes	Alexander Street	Baseline/Jenkins	499
173 rd Avenue bike lanes	Walker Road	Cornell Road	323
Hart Road bike lanes	Murray Boulevard	167 th Avenue	435
Hart Road bike lanes	Hall Boulevard	Murray Boulevard	450
Hart Road/Bany Road bike lanes	167 th Avenue	170 th Avenue	60
Cornell Road bike lanes	158 th Avenue	185 th Avenue	450
Baseline Road bike lanes	158 th Avenue	170 th Avenue	180
Murray Boulevard bike lanes	Old Scholls Ferry Road	Scholls Ferry Road	150
Oak Street/Davis Road/Allen bike lanes	Murray Boulevard	170 th Avenue	420
Allen Boulevard bike lanes	ORE 217	Murray Boulevard	255
Allen Boulevard bike lanes	ORE 217	approximately 200 ft west of Western Ave	94
Nora-Beard Road bike lanes	175 th Avenue	155 th Avenue	435
Weir Road	175 th Avenue	155 th Avenue	390
175 th Avenue-Rigert Road bike lanes	170 th Avenue	ORE 210	1,028
Bicycle Action Plan Projects Total Cost:			\$14,813

Table 11-5
Motor Vehicle Improvement List

Roadway/Intersection	Improvement	Jurisdiction	cost
Project Included in the RTP/MSTIP/STIP/CIP Funding Programs			
Farmington Road	Widen to 5 lanes with bike lanes from Murray Boulevard to 173rd Avenue	Wash Co/ODOT	\$ 12,000,000
Farmington Road	Widen to 5 lanes with bike lanes from 173rd to 209th	ODOT	\$ 26,288,000
Scholls Ferry Road	Add turn lanes/widen/realign Scholls Ferry/Old Scholls Ferry city limits to 175th	ODOT/Wash Co	\$ 4,200,000
170th Avenue	Widen to 3 lanes with S/W and B/L Rigert to Blanton to Alexander	Wash Co/MSTIP	\$ 12,400,000
170th/ 173rd Avenue	Construct/widen road to 3 lanes with S/W and B/L Baseline Road to Walker Road	Wash Co/MSTIP	\$ 3,100,000
Jenkins: Murrav to 158th	Widen to 5 lanes MM	Wash Co.	\$ 1,700,000
Jenkins: Cedar Hills to Murray	Widen to 3 lanes MM	Wash Co.	\$ 2,800,000
Walker Rd: Murrav to 185th	Widen to 5 lanes with bike lanes and sidewalks	Wash Co	\$ 10,800,000
Cornell Road: Bethany to 179th	Widen to 5 lanes with bike lanes and sidewalks	Wash Co	\$ 3,100,000
Murray Boulevard Overcrossing	Widen to four lanes Millikan to Terman	Wash Co.	\$ 4,700,000
Lombard: Broadway to Farmington	Realign roadway to align with segment to the north (3 lanes)	City/MSTIP	\$ 1,600,000
Davis Road	Widen road and add bike and pedestrian facilities from Allen to 170th Avenue.	City/MSTIP	\$ 4,300,000
Lombard: LRT to Center	Extend 3 lane section with sidewalks	City	\$ 1,700,000
Allen: Menlo to Main	Widen to 5 lanes	City	\$ 3,100,000
125 Avenue: Greenway to Hall	Extend 3 lane section with sidewalks	City	\$ 10,000,000
6th/Division: Murray to 149th	Extend 2 lane roadway	City	\$ 700,000
Millikan: Hocken to Cedar Hills	Extend Millikan to the east to connect to Cedar Hills at Henry Street	City/MSTIP	\$ 2,700,000
Canyon Road: ORE 217 to 117th	Provide median access control, relocate traffic signal, add turn lanes	ODOT	\$ 5,950,000
US 26: ORE 217 to Murray	Widen highway to 6 lanes and add braided ramps	ODOT	\$ 13,797,000
ORE 217: US 26 to Canyon	Widen highway and complete ramp work	ODOT	\$ 30,500,000
ORE 217: TV Hway to 72nd	Widen highway to 6 lanes and provide auxiliary lanes to freeway	ODOT	\$ 60,000,000
Hall Boulevard at Scholls Ferry	Provide southbound right turn lane	ODOT	\$ 250,000
Murray Boulevard	Traffic signal interconnect Farmington to Millikan	ODOT	\$ 35,000
SUBTOTAL OF PROJECTS IN FUNDING PROGRAMS			\$ 215,720,000
Projects NOT included in current funding programs			
US 26: 185th to Murray	Widen highway to 6 lanes, install auxiliary lanes as warranted between interchanges	ODOT	\$ 23,700,000
ORE 217: Walker/Cabot/Canyon Braid	Braid ramps between Canyon and Walker/Cabot split diamond	ODOT	\$ 20,800,000
ORE 217: Denny/Allen CD		ODOT	\$ 8,600,000
TV Highway: Cedar Hills to 185th	Widen to 7 lanes/MM	ODOT	\$ 33,200,000
TV Highway: 117th to Hillsboro	Access Control strategies to improve lane capacities	ODOT	\$ 15,000,000
Farmington: Hocken to Murray	Widen to 5 lanes/MM	ODOT/City	\$ 4,100,000

Table 11-5

Motor Vehicle Improvement List

170th: Division to Blanton	Widen to 5 lanes/MM	Wash Co	\$ 2,500,000
170th: Alexander to Merlo	Widen to 5 lanes/MM	Wash Co	\$ 2,800,000
170th: Merlo to Baseline	Widen to 3 lanes/MM	Wash Co	\$ 2,100,000
173rd: Cornell to Bronson	Build new 2/3 lane roadway with grade separation of US 26 connecting to 174th/MM	Wash Co/ODOT	\$ 14,800,000
158th/Merlo: 170th to Walker	Widen to 5 lanes/MM	City	\$ 4,000,000
Cedar Hill Blvd: Walker to US 26	Complete 5 lane roadway/MM/Access Control	Wash Co	\$ 2,100,000
143rd/Meadow: Science Park - Walker	Establish a new 2 lane roadway connection, including a grade separation of US 26/MM	Wash Co	\$ 19,900,000
Walker Road: Murray to ORE 217	Widen to 5 lanes/MM	Wash Co	\$ 26,500,000
Jenkins Road: Murray to Cedar Hills	Widen to 5 lanes/MM	Wash Co	\$ 3,800,000
Scholls Ferry: Hall to Old Scholls	Widen to 7 lanes/MM	Wash Co	\$ 15,300,000
Murray: Old Scholls to Scholls Ferry	Extend Murray south to Walnut as 3 lane road/MM	Wash Co.	\$ 3,500,000
Bany/Hart: 170th to Murray	Improve to 2-3 lanes/MM	Wash Co	\$ 3,800,000
Beard/Nora: Murray to 175th	Improve to 2-3 lanes/MM	Wash Co	\$ 6,600,000
Center: 114 to Cedar Hills	Widen to 3 lanes	City/Co	\$ 3,200,000
Allen: ORE 217 to Western	Widen to 5 lanes/MM	City	\$ 1,000,000
Allen: ORE 217 to Murray	Complete 5 lane widening/MM	City	\$ 5,400,000
Weir: Murray to 175th	Improve roadway with 3 lanes/MM	City	\$ 3,700,000
Davies: Old Scholls to Scholls Ferry	Close Scholls at Old Scholls, Extend Davies south to Scholls 3 lanes/MM	City	\$ 1,500,000
Hall north of Center	Extend new 5 lane roadway north of Center to connect with Jenkins at Cedar Hills/MM	City	\$ 11,000,000
Center: Cedar Hills to Karl Braun	Extend public roadway 3 lanes/MM	City	\$ 1,500,000
141st: Tek to Farmington	Realign and extend 2/3 lane roadway/MM	City	\$ 2,800,000
Nimbus Avenue: Hall to Denney	Extend 2/3 lane roadway/MM	City	\$ 8,300,000
Local Streets: Downtown Area	Henry Street, Rose Biggi, 114th/Griffith, Broadway extension and others per Regional Ctr	City	\$ 25,600,000
Local Streets: NW Beaverton	185th/Cornell/170th/TV Highway - add local connectivity	City	\$ 4,900,000
Local Streets: SW Beaverton	175th/Weir/155th/Sexton Mountain - add local connectivity	City	\$ 3,900,000
Local Street: Scholls	Scholls Ferry to 175th north to Alvord - add local and collector connectivity	City	\$ 6,600,000
Intersection Improvements	Addition of intersection turning lanes	City/County/State	\$ 57,175,000
Traffic Signals	Addition of 50 traffic signals per plan	City/County/State	\$ 12,500,000
SUBTOTAL OF PROJECTS NOT IN CURRENT FUNDING PROGRAMS			\$ 362,175,000
TOTAL OF MOTOR VEHICLE MASTER PLAN			\$ 577,895,000
NOTE: MM - Multi-modal improvement including sidewalks and bicycle lanes			

FINANCING ISSUES

The collective funding requirements of the Beaverton TSP is outlined by mode in Table 11-6. Based upon current sources of funding, the cost of the needs far exceeds the existing funding over 20 years. It should be noted that elements of the bicycle and pedestrian project lists which are redundant to the street improvement list were deducted to avoid double counting. Some of the difference can be made up by land use development exactions, where unimproved frontage is built to the TSP standards as projects are implemented. A rough estimate of the potential value of fronting development exactions is about \$30 to 50 million dollars over 20 years, assuming that all the unimproved frontages of roadway projects (sidewalk plus 18 feet of street) identified in this plan were exactions. This would assume that the fronting improvements would not be credited to TIF/SDC revenue which is already included in the existing funding outlook.

Table 11-6
Costs for Beaverton Transportation Plan over 20 years
 1997 Dollars

Transportation Element	Approximate Cost
Street Improvement Projects*: Current Funding	\$215,720,000
Unfunded	\$362,175,000
Signal Coordination/ITS Systems (\$275,000/yr)	\$5,500,000
Road Maintenance (assumes 4% per year growth)	\$51,000,000
Bicycle Master Plan	\$10,730,000
Pedestrian Action Plan	\$7,100,000
Pedestrian/School Safety Program (\$10,000/yr)	\$200,000
Sidewalk Grant Program (\$50,000/yr)	\$1,000,000
Park-and-ride Expansion (1,000 spaces)	\$2,000,000
Neighborhood Traffic Management (Initial Program)	\$1,500,000
Neighborhood Traffic Management (\$75,000/yr)	\$1,500,000
TSP Support Documents (i.e., Design standard update ...)	\$750,000
TDM Support (\$50,000/yr)	\$1,000,000
TWENTY YEAR TOTAL in 1997 Dollars	\$660,175,000

NOTE: Many of these projects include multi-modal elements built with streets, such as bike lanes and sidewalks.

The funding sources which can be used for various modes of transportation are summarized in Table 11-7. Historically, funding sources have been developed to support roadways for automobiles. Few funding sources have been allocated to other travel modes. Other travel modes were commonly implemented as an element of a roadway project, if funded at all. While federal gas tax funds are specifically allocated to multi-modal and balanced investments in transportation, other sources of funds cannot (state gas tax). To address these other modes the City will need to specifically allocate funds for a balanced transportation system, while managing the overall needs and revenues.

**Table 11-7
Fundable Projects by Source**

Source	Bicycle	Pedestrian	Streets	Maintenance	Transit
System Development Charges (SDC)	•	•	✓		
Gas Tax/Motor Vehicle Fees					
STATE	•	•	✓	✓	
FEDERAL	✓	✓	✓	✓	✓
Street Utility Fees				✓	
Exaction's	•	✓	✓		
Local Improvement Districts (LID)	•	•	✓		
Tax Increment Financing					
Special Assessments		•	✓	✓	✓
Fees					
Other Vehicle Fees			✓		
Oregon Special Public Works Fund	•	•	✓		✓
Employee Tax					✓

- Typically as part of roadway project where other modes are incorporated
- ✓ Used as a primary source of funding

Current transportation revenue for the City of Beaverton can be summarized as noted in Table 11-8. Presuming a constant funding level for 20 years, this would potentially fund nearly \$280,000,000 of transportation projects (maintenance, operation, construction). As a comparison to this number, the amount of regional funding allocated to transportation projects in Beaverton, using the RTP constrained funding scenario was added up. Approximately \$215 million of transportation projects have been identified in the current funding programs.¹ While these numbers are not exactly the same (the numbers from Table 11-8 include all City and local funding sources), they clearly point out that

¹Interim Federal Regional Transportation Plan, Metro, July 1995, Table 7-2.

there is a serious shortfall between the cost of the transportation plan and the current funding sources. The transportation plan costs of \$660 million are much greater than the best case revenue scenario of \$280 million using existing funding sources. This \$380 million gap generates the need to explore several other concepts:

Table 11-8
 Estimation of Available Transportation Funding From Existing Sources
 1997 Dollars (approximate)

Source	Approximate Annual Revenue
State Motor Vehicle Fees to City	\$3,000,000
County Gas Tax to City	\$250,000
TIF to City	\$1,200,000
Beaverton Tax Base Allocation to signals/NTM	\$800,000
Miscellaneous	\$250,000
MSTIP to City (approximate)	\$2,500,000
State/Federal Fees use in City (approximate, assuming 35% capital allocation)	\$6,000,000
Annual TOTAL	\$14,000,000
20 YEARS OF CURRENT FUNDING	\$280,000,000

Reduce the transportation plan costs. This can eliminate funding shortfall by deferring or eliminating projects. While some cost reduction is expected in the normal implementation of transportation projects of this size, to meet the total funding shortfall by this strategy would have impacts. Lower services levels for all modes of transportation, more extensive congestion, and impacts on community livability would be expected. Depending how much of the plan is eliminated (assuming land use forecasts occur), this strategy could significantly impact the economic potential of Beaverton (business relocate, people move out, development does not reach 2015 forecasts). Additionally, by deferring capital costs of significant projects outside of 20 years it can be expected that the same projects will cost multiples of their estimated costs in the short term. This is similar to deferring roadway maintenance and paying 4 to 5 times the cost of the same improvement by waiting years into the future to act. Rising land costs, development of vacant land adjacent to roadways which increasing mitigation requirements and greater public impacts (dealing with hundreds of residents rather than one vacant land property owner) erode transportation dollars, making deferral an unwise choice in managing the public interests.

Build alternative mode projects and eliminate costly road projects. This strategy is commonly discussed by people as a way to “get people out of their cars”. However, the overall future need for transportation in Beaverton results in the majority of people using motor vehicles (single occupant vehicles and carpool/vanpools). This strategy would severely impact bus transit, bicycle and pedestrian travel which all use the same streets as automobiles.

Increase gas tax to meet TSP needs. Gas tax, although assumed to be the major transportation funding element, is one of many sources of funds. It is primarily used to maintain the transportation system, not build new local street system capacity. Presently, state gas tax generates about \$3 million

per year in revenue for the city and the county one cent gas tax generates about \$260,000 per year to the city. If all the motor vehicle fees of the state, county and city were increased proportionately to by themselves fund the Beaverton transportation shortfall, it would require an increase of over \$0.75 per gallon of gasoline. This amount of gas **tax** increase by itself would not be reasonable today, and points to the fact that funding will need to be from a variety of sources, not just one fee.

Make development pay for all the difference in future transportation needs since they are caused by growth. If all the excess funds were divided by the increment of trips between 1997 and year 2015, an additional \$7,200 per evening peak trip would need to be charged to all development on top of all existing fees, taxes and exactions. This would impact the economic development potential of Beaverton since other cities (or states) may not have similar charges. Additionally, many of the transportation projects identified in the TSP serve existing **and** future users. For example, a roadway connection project with sidewalks and bicycle lanes (such as 170th/173rd/175th Avenues) is beneficial to all system users. This approach would unfairly impose responsibility of TSP implementation on development.

Do not allow land development unless all transportation needs can be funded. This concept is **known as** concurrency. This has been implemented in various **forms** through level of service code requirement to state laws (Florida and Washington). The examples over the last 15 years of these policies is clear. Funding policy redirects itself to fix capacity problems. Transit, pedestrian, bicycle and other mode facilities are generally not based on capacity but connectivity and access. The outcome in these communities is always larger roads - from Clark County, Washington to Contra Costa County, California to Boward County, Florida. A balanced transportation system is difficult to develop under concurrency assumptions. Outright development moratoria based upon transportation is difficult to impose, given Oregon Comprehensive Planning and property **rights**. Many communities would make significant sacrifices to have economic conditions **as** vibrant as Beaverton's. Creating extraordinary conditions for development would impact economic vitality.

Even ODOT has taken positions recently that have opposed rezoning of land if state facilities do not have adequate capacity and funding is not programmed. This is similar to concurrency. It blends assumptions that Comprehensive Plan land uses could be adequately served and that all new/additional vehicle trips are bad for the transportation system. Again, the linkage of concurrency in any form, no matter how simple or appealing, does not produce the most effective or efficient transportation system. This approach defers improvements, increasing their eventual cost of implementation. It is a reactive policy, not a progressive plan to reduce overall transportation system costs.

Use bonds to fund transportation needs: Bonds are commonly used for financing transportation projects (both MSTIP and Westside LRT are property tax levies that have used **tax** receipts as a way to support use of bonds to fund transportation projects). These bonds would require a vote of the public. This type of program would include a list of transportation projects that would be funded and a general time frame for completion. Because increases to property **tax** are not generally viewed positively by the public, an extensive public involvement effort would be necessary to coordinate the understanding of need, the extent that the bonds should fund transportation needs and what the actual program elements would include.

In studying various strategies, it is clear a “one size fits all” plan will not succeed. It is recommended that a diversified and pragmatic strategy be developed that reflects political realities, economic needs, community livability and balanced transportation system. Since transportation funding is not controlled locally, it will require steps to be taken at the state, regional, county and city level to be effective and fair. The following steps are necessary to implement the Beaverton TSP.

- Prioritize all transportation projects in Beaverton and integrate the highest ranking projects into the Fiscally Constrained Regional Transportation Plan. This assures that the projects of greatest need have the most secure funding source. Additionally, as conditions change in the future, the need for certain projects may change.
- Funding only a portion of the total twenty year TSP needs would be pragmatic, allowing for changing needs and priorities. Identifying funds for about **67% to 75%** of the most expensive element of the TSP (motor vehicle needs) allows for potential policies and programs to reduce, vehicle demand to mature and increase potential dependence on other modes and technology to reduce motor vehicle demand. This would allow funding of project 10 to 15 years out and permit funding increases to occur more timely with needs.
- Given the size ~~of~~ relative **gas tax** increase to fund transportation improvements in Beaverton, a more diverse source of state and regional funding will be needed. Assuming that funding shortfalls can best be paid by gas **tax** statewide ignores the fact that the rest of the state may not share Beaverton’s or the Portland region’s need to fund transportation. Three steps can be taken including:

Statewide: Support of gradual and incremental increases to state gas tax are made (about **\$0.06** to **\$0.10** per gallon each six years (assumes three increases in 20 years). Support statewide collection and increases to truck fees (presently weight-mile tax, diesel tax in other states).

Regionally: Support increases to motor vehicle registration and air quality surcharges (payable every two years at DEQ check up or upon sale of vehicle based upon actual miles driven). These relate the urban needs and problems.

County: Update the TIF/SDC to better reflect arterial and collector needs in the county. Credits and fronting improvements will need to be reevaluated, particularly with more and more potential for redevelopment. It can almost be assured that TIF’s would need to be increased, given the county wide transportation needs.

- At a city level, consider needed legislative changes to allow broad use of local improvement districts, area SDC’s and bond measures to fund elements of the transportation plan. One of the toughest problems for development of concurrency is up front costs. By using improvement districts, costs can be financed over time and paid when the land is generating revenue. Tax increment financing commonly used for redevelopment has nearly been discontinued by public agencies due to tax reduction measures. This means of funding transportation infrastructure

(selling bonds to pay for infrastructure that are paid off by the net income of increased tax revenues due to increased property value) can be very effective in district level master plans or redevelopment. Additionally, unique assessment districts that allow vacant property owners to defer all assessments until resale or development of land could also help reduce property owner concerns of proactively addressing transportation needs before they become more expensive address.

- Another bonding concept, requiring legislative change, would be to bond sidewalk/fronting improvements in already-developed areas with net proceeds tied to the title on the land such that upon transfer or resale the city is paid back, including interest. Current property owners would benefit from the improvements and could pay off the assessment earlier at their discretion. With the current housing market conditions, this has more applicability than when market conditions are slow. The city would need to front and back the bonds and if over the bond life resale/transfer does not occur, the city would be responsible. Given that the great majority of homes change ownership over 20 years, the risks should be minimal. This concept requires further study before testing the application.
- Use exaction process to protect right-of-way needs for twenty years in the future to meet transportation system demands. This *can* reduce the ultimate cost of street improvements. This requires an analysis process (build out assessment or frequent updates) to stay current of future right-of-way needs based upon changing land use (for example, three lanes in 2015 may need to be 5 lanes in 2025).

At a city level, develop funding programs within the City budget (using new motor vehicle fees or other funding sources) to encourage private/public cooperation in funding transportation improvements. This may take several forms and will required more assessment. One example would be establishing a city funding source that can be matched with private funding sources to implement elements of the **TSP**.