

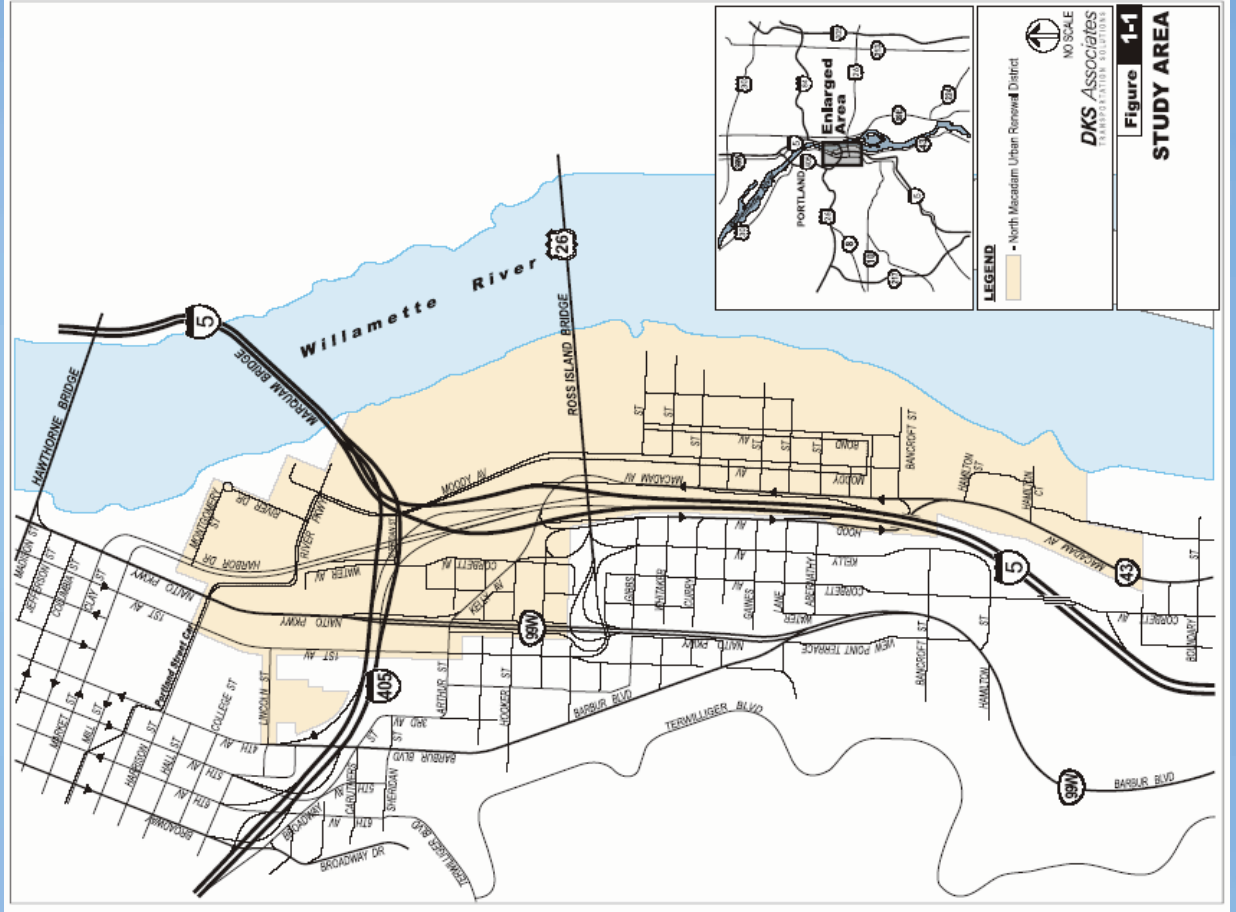
North Macadam Transportation Development Strategy

Portland City Council April 8, 2009

North Macadam Transportation Development Strategy (NMTDS)

- Long-range transportation system plan for the North Macadam Urban Renewal Area
- Resolves North Macadam capacity constraints
- Reconnects South Portland neighborhoods to each other, the central city, and the Willamette River
- Is safe, efficient, and multi-modal

North Macadam District



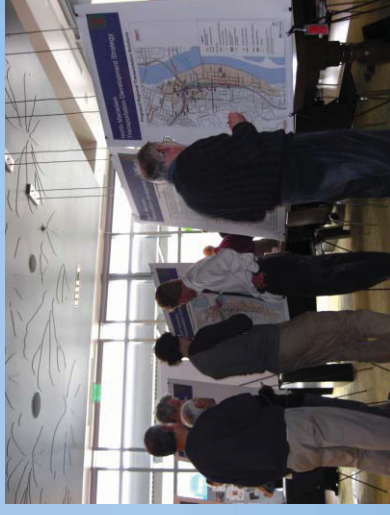
NMTDS Identifies:

- Short term (10-year) needs and projects
- Long term (20-year) needs and projects
- High Priority and In Process project lists
- Funding strategy

**Organic Document: Priorities can change
to respond to development**

Two Year Public Process

- Collaborative advance scoping with stakeholders
- Interviews
- 13 Stakeholder meetings
- Open House events
- Neighborhood Associations
- Community organizations
- Schools & universities



Public Involvement Partners

Bicycle Transportation Alliance
Hillsdale Neighborhood Association
The International School
National School of Natural Medicine
North Macadam Investors
North Macadam URAC
Oregon Health Sciences University
Portland State University
RiverPlace Planned Community Association
South Portland Neighborhood Association
Southwest Neighborhoods Incorporated
Southwest Trails
PGE Development
Zidell Marine
ZRZ Realty

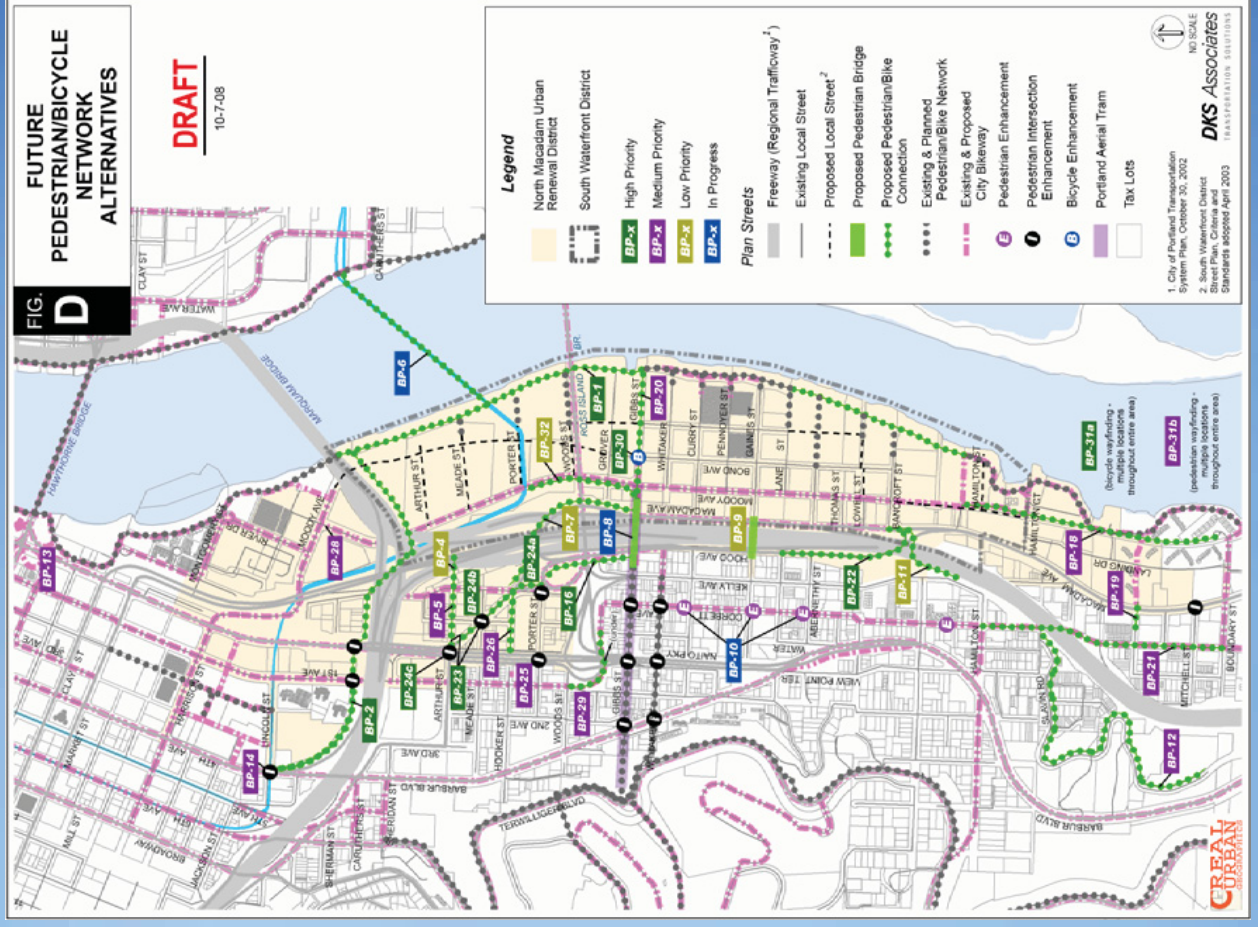




NMTDS Project Recommendations

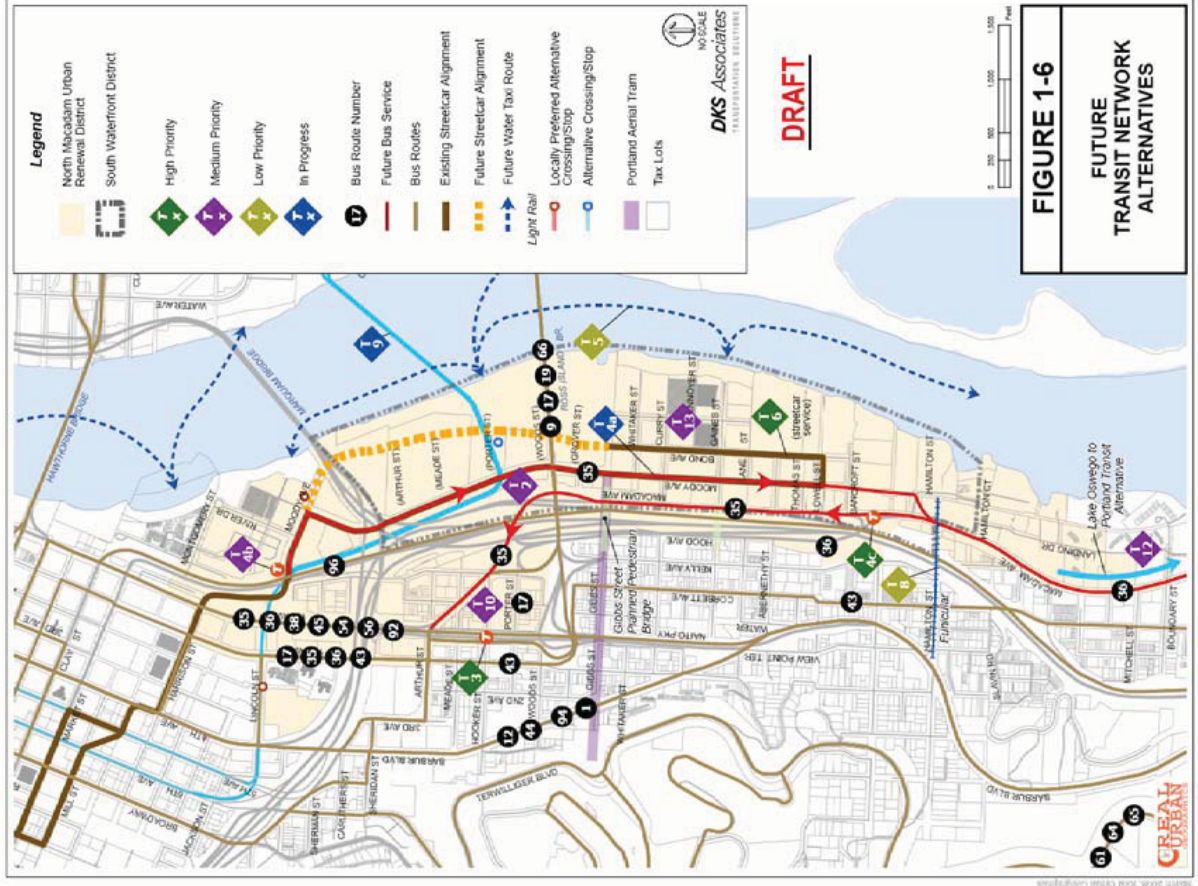
Pedestrian / Bike Projects

Project Map #	Project Name	Project Description
BP-1	South Waterfront Willamette Greenway Trail	Connection to existing alignment of multi-use waterfront trail.
BP-2	North of I-405 Connection	New pedestrian/bike connection between 3rd Ave and Water Ave, passing along south side of The International School and under I-405. The connection will tie into South Auditorium trails.
BP-4	Arthur Street Tunnel	Arthur Street tunnel under I-5 to connect NCM and surrounding area more directly to OHSU Schnitzer campus.
BP-5	Arthur Street Connection and Steps	Pedestrian/bike only boulevard along Arthur St. from Kelly Ave to Corbett Ave with steps and ramps from Water Ave to Corbett Ave.
BP-6	Portland-Milwaukie Light Rail Bridge Project	Pedestrian/bicyclist transit bridge crossing over the Willamette River.
BP-7	Macadam/City Center Ramp Connection	Widen sidewalk and add railing along the Macadam/City Center ramp to improve connections between SWF and City Center.
BP-8	Gibbs Street Bridge and Crossing Enhancements	Pedestrian bridge over I-5 and crossing enhancements along Gibbs or Whiteaker at Kelly Ave. Corbett Ave, Naito Pkwy and Babur Blvd.
BP-9	Gaines Street Pedestrian Bridge	Pedestrian bridge over I-5.
BP-10	Corbett Avenue Traffic Calming Project	Enhanced pedestrian crossings (refuge islands, curb extensions, cross walks and speed bumps) at several intersections along Corbett Ave (Hamilton to Gibbs).
BP-11	Hamilton Street to South Portal Pedestrian/Bicycle Connection	New pedestrian/bike trail along hillside west of I-5 from Hamilton Street to existing I-5 underpass at Hood/Bancroft.
BP-12	Hobbs Rd Connection to Red Electric Trail	Combined off-street and on-street pedestrian/bicycle connection between Babur Boulevard and Corbett Avenue.
BP-13	Naito Pkwy Cut-Cut to Hawthorne Bridge	Curb cut from Naito Pkwy SB to Hawthorne Bridge ramp and at top of ramp onto the bridge to allow better bike access.
BP-14	4th Avenue/Unclon Street Pedestrian Improvement	Provide signalized pedestrian crossings on south and east legs of the intersection.
BP-15	Corbett Ave/Water Ave Enhancement	PROJECT RECOMMENDED FOR DELETION - Infrastructure improvements already included in redevelopment requirements.
BP-16	Hood Avenue Sidewalk Enhancement - Porter St. to Enhancement - Corbett St. to Gibbs St.	New pedestrian/bike connection along Kelly between Porter Street and Gibbs Street. This connection from NCM/ Ross Island Bridge to the Gibbs Bridge for access into the SWF District.
BP-17	Abnethy St Connection to Greenway Trail	PROJECT RECOMMENDED FOR DELETION - recommended for inclusion in parcel development.
BP-18	South Moody Avenue Connection	New pedestrian/bike connection between Hamilton Street and Boundary Street along the existing trolley right-of-way.
BP-19	Richardson Street Connection	New pedestrian/bike connection along Richardson Street from Corbett Avenue to the eastside of Macadam Avenue. Include break in Macadam Ave median.
BP-20	Gibbs Street Promenade	Pedestrian/bike promenade along Gibbs Street from Moody (at the base of the lower tram terminal) to the Greenway Trail.
BP-21	Corbett Avenue Upliftal Bike Lane - Boundary to Hamilton Lane	Add bike lane to Corbett Avenue NB from Boundary Street to Hamilton Street.
BP-22	Hood Avenue Crosswalk and Sidewalk Enhancement - Lane to Macadam	Place jersey barriers with a handrail between Hood Avenue sidewalk (eastside of street) and traffic. Add ped crossing of Hood Ave at Lane St.
BP-23	Kelly Pedestrian Tunnel Closure and Crosswalk Replacement	Close pedestrian tunnel beneath Kelly at Naito and Arthur. Replace tunnel with at-grade crosswalk and ped island on Kelly at Meade St.
BP-24	Ross Is. Bridge to SW 1st Ave Connection	Improvements to provide continuous connection from the west end Ross Island Bridge sidewalk to SW 1st Ave. Comprised of BP-24a, BP-24b, BP-24c.
BP-24a	West-end Ross Island Bridge/Lease Connection	Add pedestrian crossing and island across Kelly at Porter (connect bus stop to NCM campus) and across Ross Island Bridge WB ramp at Hood/Porter (connect bus stop to north sidewalk of bridge).
BP-24b	Kelly Avenue bike lanes	Add pedestrian crossing across the N. Macadam/City Center ramp at Kelly (connect bus stop to sidewalk on north side of Kelly).
BP-24c	Ramp Crossing of Kelly Ave to Naito Pkwy NB	Add bike lane on north side of Kelly Ave between SW 1st Ave and the west-end Ross Island Bridgehead.
BP-25	Naito Pedestrian Crossing at Porter St	Strippe crosswalk across two lane ramp from Kelly Ave to Naito Pkwy NB.
BP-26	Hooker Street Pedestrian Boulevard between Naito and Kelly	Add at-grade pedestrian crossing facility across Naito at Porter.
BP-27	I-405 Bike Crossing	Convert Hooker Street into a pedestrian boulevard between Naito and Kelly.
BP-28	Moody AVE River Parkway Sidewalk Cut-Back	PROJECT RECOMMENDED FOR DELETION - Improvements more appropriately considered by the Central City Plan.
BP-29	Bike Enhancement of Grover St Underpass at Naito Pkwy	Cut sidewalk back at SW corner of Moody Ave and River Parkway to provide sufficient space to continue bike lane through the right-hand turn.
BP-30	Tram Bike Parking	Add speed bumps and sharrows (or bike lanes if sufficient space) to Grover St car lanes under Naito Pkwy overpass to improve bike usage and safety.
BP-31a & b	Wayfinding (e-bicycle, b-pedestrian)	Add secure bike parking facility adjacent to the lower tram terminal to meet existing and future bike parking demand.
BP-32	Gibbs Bridge to Light Rail Bike Connection	Add wayfinding signs to assist pedestrians and bicyclists in accessing the South Waterfront District and finding specific locations with the North Macadam Urban Renewal Area.
BP-33	Gibbs Street Pedestrian Bridge to LRT station at SW Porter St	Add bicycle trail from east end of Gibbs Street Pedestrian Bridge to LRT station at SW Porter St.



Transit Projects

Project Map #	Project Name	Project Description
T-02	Multi-modal Transit Hub	Transit hub for streetcar, aerial tram, and future light rail, Lake Oswego streetcar extension, and bus service.
T-03	Naito/Hooker Bus Stop Enhancement	Add shelter and improved lighting at Naito Pkwy and Hooker St bus stop
T-04a	Bus #35 Reroute and Stops	Reroute bus #35 from Macadam into the South Waterfront District and add bus stops
T-04b	Market/ Clay/ Harrison Transit Improvements	Improvements to allow for bus travel through the North Portal
T-04c	Bancroft Transit Improvements	Improvements to allow for bus access into the South Waterfront District at Bancroft
T-05	Water Taxis	Add water taxis, including landing stations
T-06	Streetcar Headways and Service Hours	Increase streetcar headways and extend service hours
T-08	Hamilton Street Funicular	Add a funicular along Hamilton Street to connect Barbur Blvd and I-5
T-09	Light Rail Transit	Add LRT to the South Waterfront District
T-10	Bus Connection to National College of Natural Medicine	Reroute bus line (#17) from the Ross Island Bridge to Porter, or route bus to stop at new pedestrian island in the middle of Kelly at Porter
T-12	Streetcar to Lake Oswego	Extend streetcar service to Lake Oswego
T-13	Streetcar through North District	Extend streetcar service on Bond, from Gibbs St to Riverplace



Motor Vehicle Projects

Project Map #	Project Name	Project Description
MV-1	Milwaukee Light Rail Traffic Signals and Improvements Project	Construct new traffic signals in coordination with Portland to Milwaukee Light Rail Project and extend Lincoln between 1st Avenue and Naito Parkway.
MV-3	Sheridan Street Roadway Extension (SW 3rd Ave to SW Naito Pkwy)	Construct new 4 lane roadway extension between 3rd Avenue and Naito Parkway and install signals at three intersections: Sheridan/3rd, Sheridan/1st and Sheridan/Naito. If this project is constructed, MV-26 (Arthur Street/1st Avenue Improvements) is NOT necessary.
MV-5a	Moody/Bond Couplet - Bond Avenue Extension	Extend Bond Ave from Gibbs Street to River Pkwy
MV-5b	Moody/Bond Couplet - Moody Avenue realignment	Realign Moody Avenue as development occurs
MV-9a	South Portal - phase 1	Reconfigure intersection at Bancroft Street/Macadam Avenue and construct 3 new signalized intersections at Moody Avenue/Bancroft Street, Moody Avenue/Hamilton Street, and Hamilton Street/Macadam Avenue
MV-9b	South Portal - phase 2	Extending Bond Ave from Bancroft St to Hamilton St. This project extends the Moody/Bond couplet.
MV-11a	Porter/Kelly improvement - Signalization and Kelly slip ramp closure	Install a signal at Kelly/Porter. The SB slip ramp from the Ross Island Bridge to Kelly Avenue would also be closed, due to new signalized access at Kelly/Porter.
MV-11b	Kelly Ramp realignment	The ramp that feeds into Kelly Avenue (from Macadam Avenue ramp over I-5) would be reconstructed to join into the new Kelly/Porter signalized intersection.
MV-14b	North Portal: Harbor Drive/River Parkway Improvement	Construct additional EBR turn lane and SBL turn lane.
MV-14c	North Portal: Kelly Avenue/Corbett Avenue Improvement	Reconstruct Corbett Avenue from Sheridan Street to Kelly Avenue and realign Corbett to intersect Kelly Avenue perpendicularly (in-between the existing Corbett Avenue and Meade Street intersections on Kelly Avenue). Install a new signal at this intersection.
MV-14d	North Portal: SB Harbor Drive/Sheridan Street Improvement	Widen SB Harbor Drive to two lanes and construct a traffic signal at the intersection.
MV-14e	North Portal: Sheridan St. extension (Moody Ave to Bond Ave)	Extend Sheridan Street between Moody Ave and Bond Ave
MV-21	Signalize Intersections - South Waterfront District	Construct traffic signals in the South Waterfront District as development warrants at Moody/Curry, Moody/Gaines, Bond/Curry and Bond/Gaines.
MV-24	Hawthorne/Naito Ramp Improvement	Signalize the EB entry to the Hawthorne Bridge and add a second NBR lane on the Naito Ramp to the west of the existing lane
MV-25	Macadam/Boundary Improvement	Construct an additional eastbound left turn lane and westbound left turn lane.
MV-26	Arthur Street/1st Avenue	Construct a third eastbound through lane, a separate westbound right turn lane, and a second southbound through lane. (see Summary Sheet for lane lengths). This project is only necessary if MV-3 (Sheridan Street Roadway Extension) is NOT constructed.
MV-28	Motor Vehicle Wayfinding	Implement new signage within the South Waterfront District to help direct motorists into and out of the District
MV-30	I-5 Northbound Off-Ramp/SW Curry St - northbound right turn closure from I-5 off-ramp	Construct a median or physical barrier to prohibit northbound right turn from I-5 Northbound Off-Ramp to SW Curry Street.

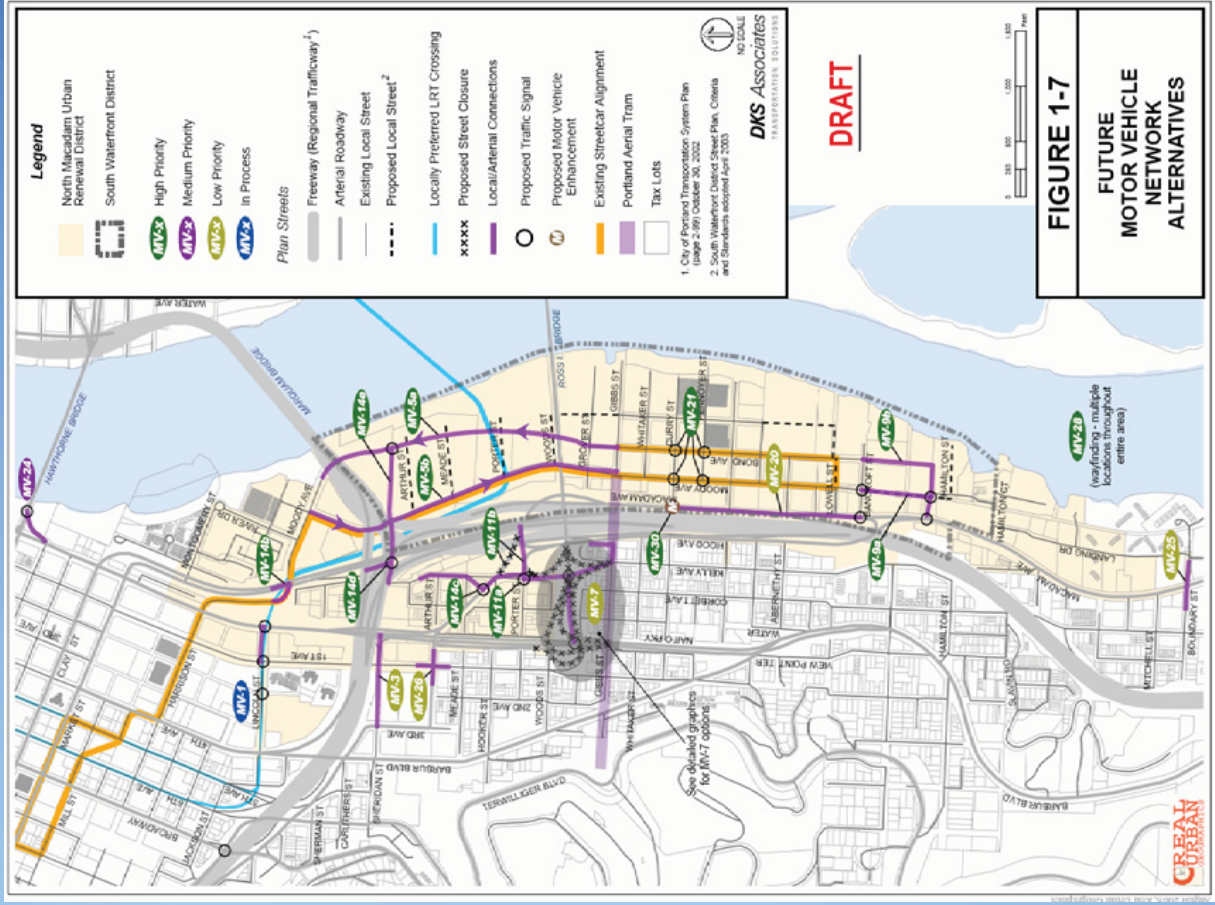


FIGURE 1-7
FUTURE
MOTOR VEHICLE
NETWORK
ALTERNATIVES

Project Prioritization

Criteria

- Benefit to Transit / Bike / Ped Networks
- Benefit to Urban Renewal Area
- Cohesion / Connectivity
- Comfort/Safety
- Cost:Benefit
- Feasibility
- Utilization

In Process and Top Priority Transit - Bike Projects

Pedestrian - Bicycle Projects	
BP-1	South Waterfront Willamette Greenway Trail
BP-2	North of I-405 Connection
BP-6	Portland-Milwaukie Light Rail Bridge Connection
BP-8	Gibbs Street Bridge and Crossing Enhancements
BP-10	Corbett Avenue Traffic Calming Project
BP-16	Hood Avenue Sidewalk Enhancement – Porter St. to Gibbs St.
BP-22	Hood Avenue Crosswalk and Sidewalk Enhancement – Lane to Macadam
BP-23	Kelly Pedestrian Tunnel Closure and Crosswalk Replacement
BP-24	Ross Is. Bridge to SW 1st Ave Connection
BP-24a	West-end Ross Island Bridgehead Connection
BP-24b	Kelly Avenue bike lanes
BP-24c	Ramp Crossing of Kelly Ave to Naito Pkwy NB
BP-30	Tram Bike Parking
BP-31	Wayfinding
Transit Projects	
T-03	Naito/Hooker Bus Stop Enhancement
T-04a	Bus #35 Reroute and Stops
T-04c	Bancroft Transit Improvements
T-06	Streetcar Headways and Service Hours
T-09	Portland-Milwaukie Light Rail Transit



In Process and Top Priority Motor Vehicle Projects

Motor Vehicle Projects	
MV-1	Milwaukie Light Rail Improvements
MV-5a	Moody/Bond Couplet - Bond Avenue Extension
MV-5b	Moody/Bond Couplet - Moody Avenue realignment
MV-9a	South Portal – phase 1**
MV-11a	Porter/Kelly Signalization and Kelly slip ramp closure
MV-11b	Kelly Ramp realignment
MV-14b	Harbor Drive/River Parkway Improvement
MV-14c	Kelly Avenue/Corbett Avenue Improvement
MV-14d	SB Harbor Drive/Sheridan Street Improvement
MV-14e	Sheridan Extension (Moody to Bond)
MV-21	Signalize Intersections – South Waterfront District
MV-28	Motor Vehicle Wayfinding

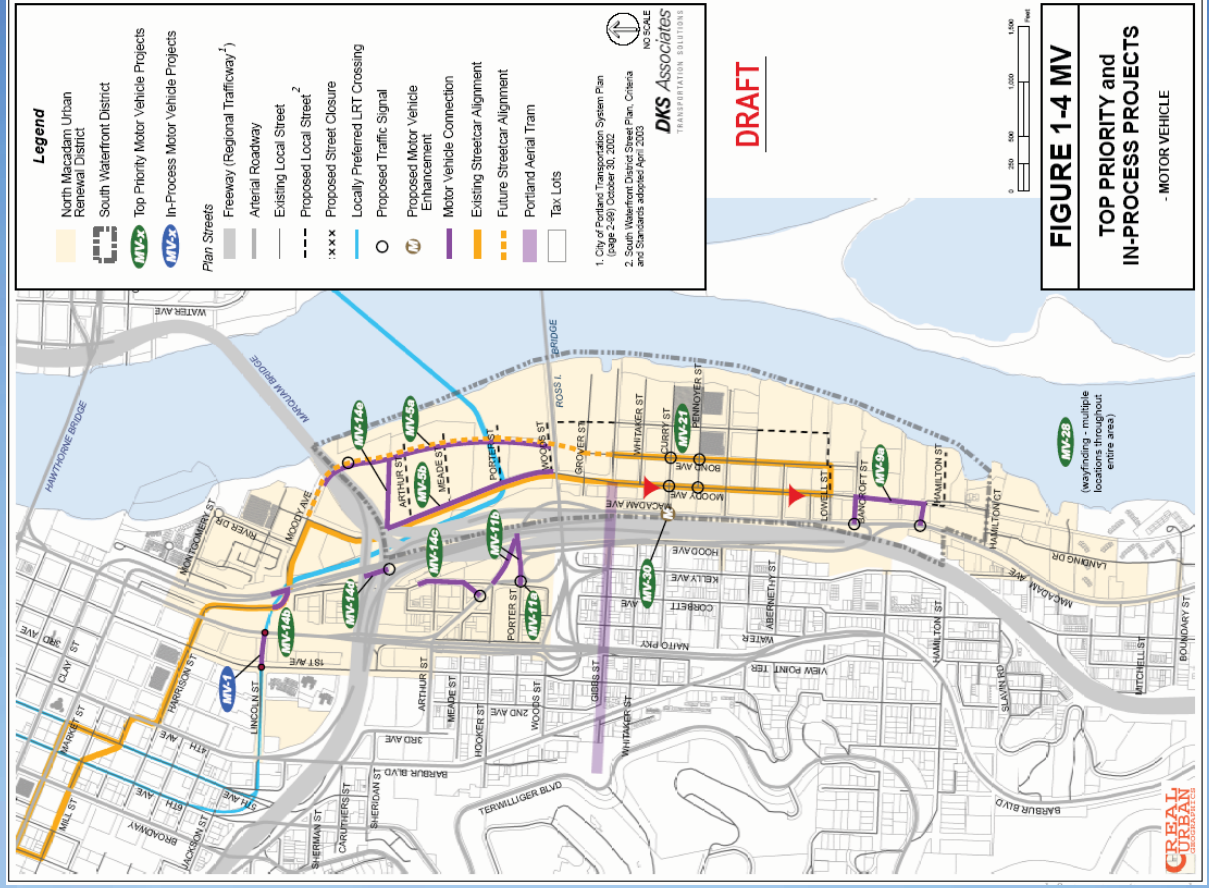


FIGURE 1-4 MV
TOP PRIORITY and
IN-PROCESS PROJECTS
 - MOTOR VEHICLE

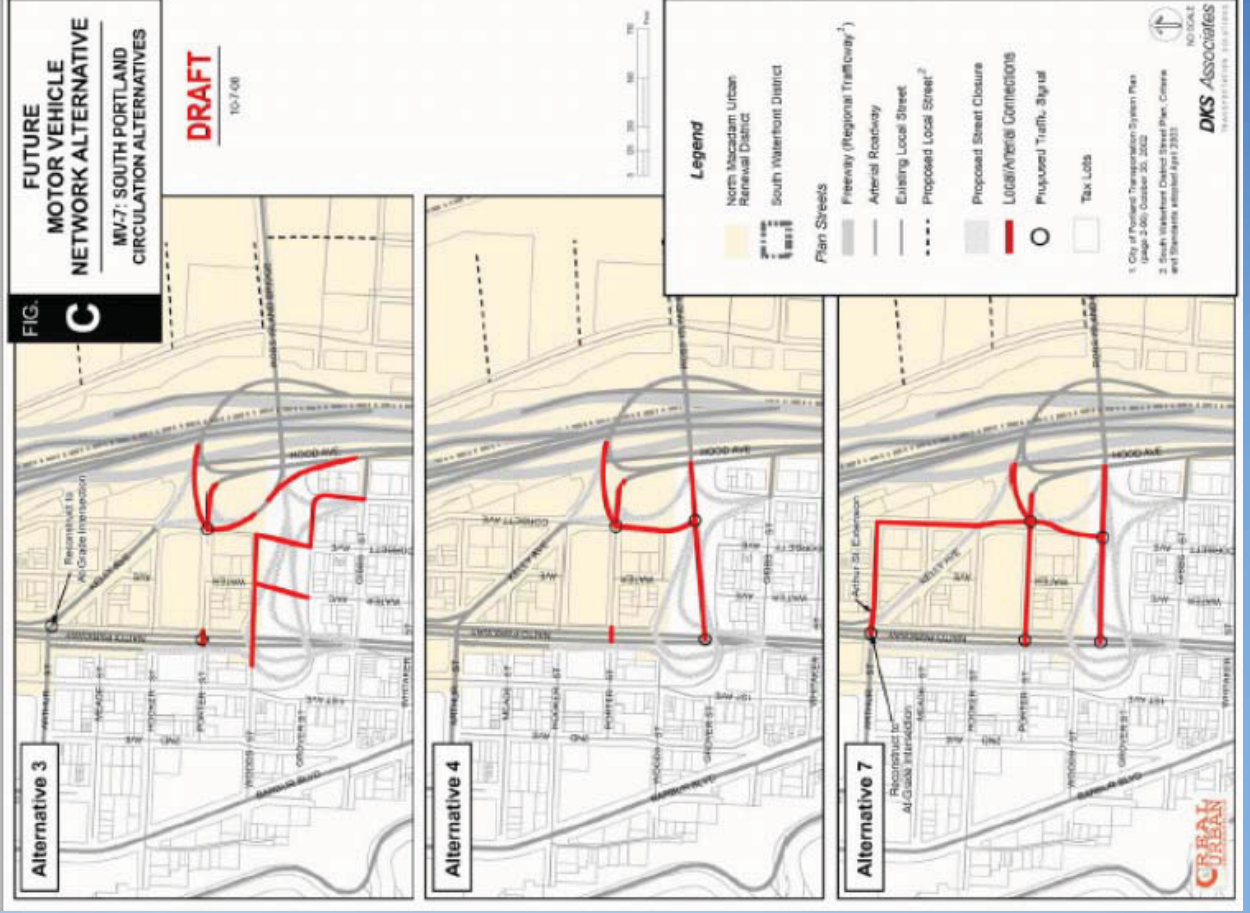
DRAFT

1. City of Portland Transportation System Plan
 2017-2040 October 30, 2012
 2. City of Portland Transportation System Plan, China
 2015-2040 August 1, 2015
 3. City of Portland Transportation System Plan, China
 2015-2040 August 1, 2015
DKS ASSOCIATES
 TRANSPORTATION SOLUTIONS



South Portland Circulation Alternatives

Project Map #	Project Name	Project Description
	ALT 3	<p>This alternative is most similar to the South Portland Circulation Study</p> <ul style="list-style-type: none"> Decomstruct the ramps to west end of the Ross Island Bridge All RBG traffic goes to new signal at SW Kelly Avenue/SW Porter Street (10 lanes or more cross section would likely be necessary on Kelly Avenue to accommodate future traffic volumes with this configuration) Close SW Corbett Avenue between SW Porter Street and SW Grover Street Reconstruct SW Corbett Avenue from SW Porter Street to SW Sheridan Street with a new signal at SW Corbett Avenue/SW Kelly Avenue (MW-14c component) Strip ramp added for SB traffic south of SW Kelly Avenue/SW Porter Street to SW Hood Avenue (no southbound left turn allowed at the SW Kelly Avenue/SW Porter Avenue intersection) Reconstruct SW Kelly Avenue ramp from SW Macadam Avenue to join at SW Kelly Avenue/SW Porter Street intersection and install a new traffic signal at the intersection (MW-11a and 11b) Decomstruct SW Kelly Avenue ramp between SW Corbett Avenue/SW Kelly Avenue and the split from SW Macadam Avenue ramp over I-5 (MW-11b) Reconstruct the Athurblato intersection to be at grade (requires large cross sections) – consideration of prohibiting all left turn movements to improve traffic operations if intersection is at grade. Extend SW Porter Street through to SW Nabo Parkway and install a new signal Decomstruct the ramps to west end of the Ross Island Bridge Construct new signalized intersections at Ross Island Bridge/SW Corbett Avenue, Ross Island Bridge/SW Nabo Parkway, and SW Kelly Avenue/SW Porter Street Reconstruct SW Corbett Avenue from SW Porter Street to SW Sheridan Street with a new signal at SW Corbett Avenue/SW Kelly Avenue (MW-14c component) Signalize the SW Porter Street/SW Corbett Avenue intersection (MW-11a) Decomstruct SW Kelly Avenue ramp between SW Corbett Avenue/SW Kelly Avenue and the split from SW Macadam Avenue ramp over I-5 (MW-11b) Reconstruct SW Kelly Avenue ramp from SW Macadam Avenue to join at SW Kelly Avenue/SW Porter Street intersection and install a new traffic signal at the intersection (MW-11a and 11b) Improve SW Kelly Avenue between SW Corbett Avenue and SW Nabo Parkway Extend SW Porter Street through to SW Nabo Parkway and install a new signal Maintain a grade-separated intersection at SW Nabo Parkway/SW Athur Street
	ALT 4	<ul style="list-style-type: none"> Decomstruct this ramp to west end of the Ross Island Bridge Construct new signalized intersections at Ross Island Bridge/SW Corbett Avenue, Ross Island Bridge/SW Nabo Parkway, and Ross Island Bridge/SW Nabo Parkway Signalize the SW Porter Street/SW Corbett Avenue intersection (MW-11a) Decomstruct SW Kelly Avenue ramp between SW Corbett Avenue/SW Kelly Avenue and the split from SW Macadam Avenue ramp over I-5 (MW-11b) Reconstruct SW Kelly Avenue ramp from SW Macadam Avenue to join at SW Kelly Avenue/SW Porter Street intersection and install a new traffic signal at the intersection (MW-11a and 11b) Signalize the SW Porter Street/SW Corbett Avenue intersection (MW-11a) Decomstruct SW Kelly Avenue ramp between SW Corbett Avenue/SW Kelly Avenue and the split from SW Macadam Avenue ramp over I-5 (MW-11b) Reconstruct SW Kelly Avenue ramp from SW Macadam Avenue to join at SW Kelly Avenue/SW Porter Street intersection and install a new traffic signal at the intersection (MW-11a and 11b) Reconstruct the SW Arthur Street/SW Nabo Parkway intersection at grade (possibility of prohibiting all left turn movements to improve operations and decrease necessary cross section) Extend SW Arthur Street through to SW Corbett Avenue Improve SW Corbett Avenue from SW Porter Street to SW Arthur Street (variation of MW-14c) Extend SW Porter Street through to SW Nabo Parkway and install a new signal
	ALT 7	<ul style="list-style-type: none"> Reconstruct the Athurblato intersection to be at grade (requires large cross sections) – consideration of prohibiting all left turn movements to improve traffic operations if intersection is at grade. Extend SW Porter Street through to SW Nabo Parkway and install a new signal Decomstruct the ramps to west end of the Ross Island Bridge Construct new signalized intersections at Ross Island Bridge/SW Corbett Avenue, Ross Island Bridge/SW Nabo Parkway, and Ross Island Bridge/SW Nabo Parkway Signalize the SW Porter Street/SW Corbett Avenue intersection (MW-11a) Decomstruct SW Kelly Avenue ramp between SW Corbett Avenue/SW Kelly Avenue and the split from SW Macadam Avenue ramp over I-5 (MW-11b) Reconstruct SW Kelly Avenue ramp from SW Macadam Avenue to join at SW Kelly Avenue/SW Porter Street intersection and install a new traffic signal at the intersection (MW-11a and 11b) Reconstruct the SW Arthur Street/SW Nabo Parkway intersection at grade (possibility of prohibiting all left turn movements to improve operations and decrease necessary cross section) Extend SW Arthur Street through to SW Corbett Avenue Improve SW Corbett Avenue from SW Porter Street to SW Arthur Street (variation of MW-14c) Extend SW Porter Street through to SW Nabo Parkway and install a new signal





NMTDS Funding Strategy

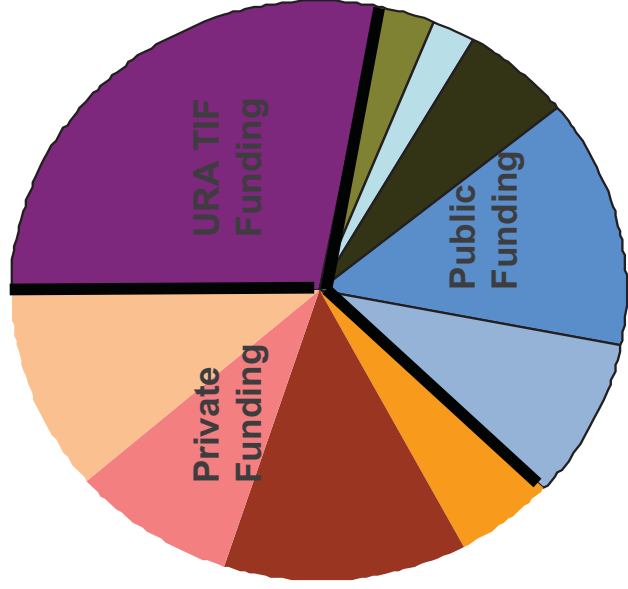
Funding Strategy

- Identifies potential sources and ranges
- Clarifies district and non-district impacts to transportation system
- Clarifies current district and non-district contribution assumptions
- Identifies federal, state, and regional grant funding opportunities that the district and city can pursue

Project Costs

Top Priority Projects	Low Cost	High Cost
Multi-modal surface street improvements	\$98.5M	\$124.8M
Pedestrian and bicycle projects	\$6.6M	\$7.7M
Transit projects (district match)	\$20M	\$25M
Total Cost	\$125.1M	\$157.6M

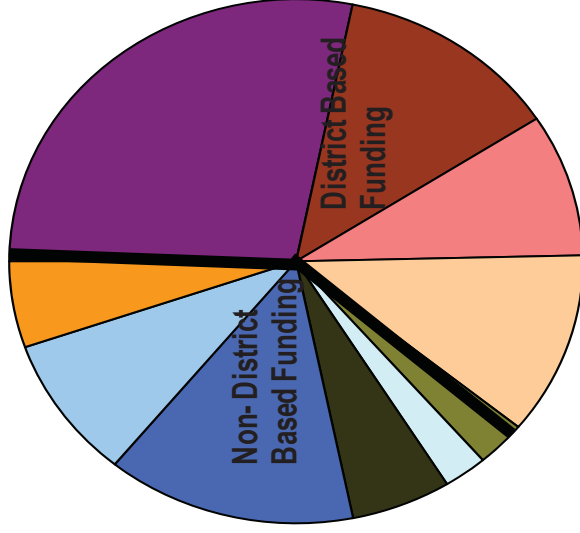
Proposed Funding Ranges



Funding Source

- URA Funding: 25-32%
- Other City Funding: 2-3%
- Regional Funding (ie MTIP): 2-3%
- Federal Funding: 5-6%
- State Funding: 12-16%
- TriMet(LRT): 8-9%
- City-wide TSDC: 5-6%
- Proposed North Mac TSDC Overlay: 11-15%
- Private Dev: 8-9%
- LID: 10-12%

District Contribution



* Pie sizes display the average of the source funding range

- URA Funding: 25-32%
- Proposed North Mac TSDC Overlay: 11-15%
- Private Dev: 8-9%
- LID: 10%-12%
- Other City Funding: 2-3%
- Regional Funding (ie MTIP): 2-3%
- Federal Funding: 5-6%
- State Funding: 12-16%
- TriMet(LRT): 8-9%
- City-wide TSDC: 5-6%

District funding sources

\$80-93M

58%-65%

District-only serving projects

\$60-77M

48%-51%

Project Implementation

- PDC and North Macadam URAC will develop legislative agenda
- Partner with ODOT on projects correcting pedestrian and bicycle access deficiencies on state-owned highways
- Use local funding commitments to leverage remaining needs for underfunded projects
- Pursue Federal, State opportunities for:
 - Ross Island Bridgehead
 - South Portal (Bancroft/Macadam Intersection)
 - North Portal (SW Kelly/Corbett to Sheridan Ave, Harbor/River Pkwy)
 - Streetcar expansion
 - Light Rail and associated street improvements in north end of South Waterfront

Next Steps

- Adopt North Macadam TSDC Overlay
- Update Transportation System Plan and South Waterfront Street Plan to include projects and priorities of the NMTDS
- Work with stakeholders and local/regional/state agencies to refine projects, write grants, and prepare funding packages to implement projects
(Spring 2009 – Ongoing)

The background of the slide features a low-angle photograph of a modern, multi-story building with a grid-like facade and numerous windows. The sky above is a clear, bright blue. A semi-transparent blue vertical bar is positioned on the right side of the slide, containing the title and date text.

North Macadam Transportation Development Strategy

Portland City Council April 8, 2009