Metro System Overview

Transit Task Force
April 20, 2010
Topics

- System Evolution
- Environment and Policy Considerations
- Performance
- Financial Issues
Prior to 1995
Major Capital Projects
Vanpools and Carpools
Paratransit
1996-2001 Plan
Reallocated resources for natural gas conversion to fund new service
1996-2001 Plan: Objectives

- Market Share
- Mobility
- Cost and Efficiency
- Social, Economic and Environmental Benefits
- Financial Feasibility
Shift to multi-centric service design

- Restructure system
- Consolidate corridor services
- Improve transfer environment
- First use of allocation concept
- More people, more places, more often
Consolidation of service in key corridors

Transit Hub improvements to enhance transfer experience
Measures of Success

- Market Share
  - Service Orientation
  - Market Penetration

- Mobility
  - Work trip HOV market share
  - Overall trip transit share

- Cost Efficiency
  - Transit ridership
  - Service effectiveness
Market Penetration and Use

- Market penetration

- Overall trip transit share
Results and Outcomes

- Gains in ridership
- Increase in number of households with residents using transit
- Increase in transit use per capita
- Improved access to a wider array of locations and centers
Annual Boardings and Platform Hours 1973 to 2001

Annual Boardings (millions)

Annual Platform Hours (millions)

Annual Boardings

Platform Hours

Annual Boardings

Platform Hours
2002-2007 Plan: “Building on Success”

Improve frequencies and span of service on two-way, all day, high ridership routes
Funding Issues

- 1999: I-695 approved. Metro’s funding reduced by $110 million per year (29% of budget)

- 2000: Transit sales tax authority raised by Legislature to 0.9 percent

- 2000: 0.2 percent Metro sales tax approved

- Dot com bust: The projected sales tax growth to fund most of the service adds in the plan is lost

- Plan became largely unfunded, but included the revised allocation policy of “40-40-20”
Delridge-Ambaum Corridor

Results: 45% increase in ridership along the corridor vs. 22% system-wide
## Major Service Restructure Outcomes

<table>
<thead>
<tr>
<th>Year</th>
<th>Area/Route</th>
<th>Pre-Service Change</th>
<th>Spring 2008</th>
<th>Net Change in Boardings</th>
<th>% Change in Boardings</th>
<th>Added Service Hours</th>
<th>Boardings per Added Service Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>North King County</td>
<td>2,912,160</td>
<td>4,064,950</td>
<td>1,152,790</td>
<td>40%</td>
<td>4,300</td>
<td>268.1</td>
</tr>
<tr>
<td>2003</td>
<td>Rt 358</td>
<td>2,292,340</td>
<td>3,203,730</td>
<td>911,390</td>
<td>40%</td>
<td>8,000</td>
<td>113.9</td>
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<tr>
<td>2004</td>
<td>Federal Way</td>
<td>2,311,640</td>
<td>3,598,320</td>
<td>1,286,680</td>
<td>56%</td>
<td>12,600</td>
<td>102.1</td>
</tr>
<tr>
<td>2005</td>
<td>Ambaum-Delridge</td>
<td>4,371,220</td>
<td>5,723,300</td>
<td>1,352,080</td>
<td>31%</td>
<td>12,800</td>
<td>105.6</td>
</tr>
<tr>
<td>2005</td>
<td>Rt 7/49 Split</td>
<td>5,829,710</td>
<td>6,092,086</td>
<td>262,376</td>
<td>5%</td>
<td>10,400</td>
<td>25.2</td>
</tr>
<tr>
<td>2006</td>
<td>Rt 150/180</td>
<td>2,328,900</td>
<td>3,618,140</td>
<td>1,289,240</td>
<td>55%</td>
<td>20,600</td>
<td>62.6</td>
</tr>
<tr>
<td>2008</td>
<td>Central Eastside</td>
<td>1,507,710</td>
<td>1,776,520</td>
<td>268,810</td>
<td>18%</td>
<td>16,600</td>
<td>16.2</td>
</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21,553,680</td>
<td>28,077,046</td>
<td>6,523,366</td>
<td>30%</td>
<td>85,300</td>
<td>76.5</td>
</tr>
</tbody>
</table>
Coordination Among Central Puget Sound Transit Systems

- Regional fare agreement - ORCA
- Good neighbor policy
- Joint funding of new facilities
- Seattle CBD operations
- Bus purchasing
- Tripper storage
Sound Transit Coordination: Service Plans
2007-2010

- High ridership network improvements
- RapidRide/Bus Rapid Transit
- Service for rapidly developing areas
- Service partnership program
- Access and rideshare improvements
High Ridership Network
RapidRide BRT
Transit Now Implementation

- Core and developing area services initiated
- Service partnerships approved
- RapidRide funding secured & construction underway
- Drop in sales tax has again resulted in funding shortfall for service plans
Annual Boardings and Platform Hours 1973 to 2009

- Annual Boardings (millions)
- Platform Hours (millions)

Graph showing the increase in annual boardings and platform hours from 1973 to 2009.
2009 Ridership

South Lake Union Streetcar

Access

LINK

Commuter Van

Sound Transit Bus

Metro Transit Bus
Customers

- 52% Female
- 90% “choice” riders
- Occupation:
  - 73% Adult
  - 9% Students
  - 18% Retired
- Median Income: $69,000
Transit Access/Availability
Overall Rider Satisfaction

- Very Satisfied
- Somewhat Satisfied
- Dissatisfied

1993: 4% Very Satisfied, 6% Somewhat Satisfied, 52% Dissatisfied
2000: 43% Very Satisfied, 43% Somewhat Satisfied, 50% Dissatisfied
2001: 7% Very Satisfied, 48% Somewhat Satisfied, 41% Dissatisfied
2002: 6% Very Satisfied, 41% Somewhat Satisfied, 52% Dissatisfied
2003: 6% Very Satisfied, 42% Somewhat Satisfied, 52% Dissatisfied
2005: 7% Very Satisfied, 38% Somewhat Satisfied, 55% Dissatisfied
2006: 6% Very Satisfied, 45% Somewhat Satisfied, 48% Dissatisfied
2007: 6% Very Satisfied, 42% Somewhat Satisfied, 52% Dissatisfied
2008: 6% Very Satisfied, 41% Somewhat Satisfied, 54% Dissatisfied
2009: 7% Very Satisfied, 46% Somewhat Satisfied, 47% Dissatisfied

King County METRO
We’ll Get You There.
Environment and Policy Considerations
Built Environment and Demographics

- Built Environment
  - Population Density
  - Employment Density
  - Urban Form

- Other Factors
  - Demographics
  - Cost
Population Growth
Population Density
Population Growth and Density
Excludes cities where population growth was <2,500

Population Change Between 2000 and 2009 and Resulting Density

<table>
<thead>
<tr>
<th>City</th>
<th>Change in Population</th>
<th>Resulting Population per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auburn</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Bellevue</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>Bothell</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Covington</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Federal Way</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Issaquah</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Kent</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Kirkland</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>Maple Valley</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Redmond</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Renton</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Sammamish</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Seattle</td>
<td>11.2</td>
<td></td>
</tr>
<tr>
<td>Snoqualmie</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>
Employment Density
Employment Growth 2002 to 2008

Excludes cities where job growth was <2,500
Urban Form

Resource: Solutions, The Martin Centre, University of Cambridge
Community Design

- Highest priority -- design with the pedestrian in mind
- Promote dense mixed-use development
- Interconnected street grid.
- Managed parking within the 10-minute walk zone
- Buildings fronts at sidewalks
Income

- Lower income generally translates to higher transit use
- Metro riders’ average income exceeds other transit systems

US Public Transportation Passenger Income
Aging Population
Land Use Plans

- Focus growth in cities
- Relieve pressure rural and smaller cities
Social Justice

- Regulatory obligations
  - 1964 Civil Rights Act
  - Americans with Disabilities Act of 1990 (ADA)

- Local Policies
Current Policies and Planning Framework

- Comprehensive Plan: Overall guidance and policies for the future
- Strategic Plan: Strategies for how to get there
Comprehensive Plan

Goals -- define Metro’s role in shaping the region’s future.

**Mobility**, ensure the ability to move around the region

**Growth Management**, support livability communities within Urban Growth Area

**Economic vitality**, support access to jobs, education and other community resources

**Environmental quality**, conserve land and energy resources, and reduce air pollution

**Build Partnerships**, to maximize the effectiveness and efficiency of the transit system

**Coordinate**, transportation planning and implementation of service
Strategic Plan

- Ten-year action plan to implement the policies in the Comprehensive Plan
- Identifies strategies for future development of bus, paratransit, and rideshare services
- Describes implementation timing
- Guides operating and capital budgets
Sound Transit ST2

- Link extensions and the First Hill streetcar will provide opportunities to restructure Metro services
System Design Tradeoffs

Policy Direction determines system emphasis

Existing Routes

Transit Now Commitments

All day service

Peak Capacity

Coverage

Productivity

“Choice” Riders

Transit “Dependent”

Where tax collected

Highest Ridership Routes

Service Quantity

Service Quality

Dispersed Land Use

Centers Focus
Performance
Ridership Change

Percent Change in Ridership in 2009, Motorbus & Trolley Bus, NTD
Operating Cost Change

Average Annual Percent Change in Operating Cost per Platform Hour, 2001 to 2007
Motorbus & Trolley Bus, 2008 NTD
Transit Efficiency

Operating Cost per Platform Hour
Motorbus & Trolley Bus, 2008 NTD

San Francisco $147.56
New York $146.70
San Jose $142.21
Oakland $139.81
Baltimore $136.88
Pittsburgh $126.28
King County $123.80
Washington D.C. $122.89
Detroit $121.17
Boston $119.33
Philadelphia $116.02
Newark $115.39
Miami $112.25
Portland $111.77
Average $110.38
Los Angeles $109.61
Dallas $107.42
Cleveland $104.80
Chicago $104.70
Honolulu $102.16
Minneapolis $101.87
Milwaukee $101.36
Orange $101.10
Houston $99.59
Denver $92.93
St. Louis $90.83
Atlanta $82.28
Las Vegas $77.06
San Antonio $77.00
San Diego $70.24

King County METRO
We’ll Get You There.
Transit Efficiency

Operating Cost per Platform Mile
Motorbus & Trolley Bus, 2008

<table>
<thead>
<tr>
<th>City</th>
<th>Cost (NTD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>$18.76</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$17.75</td>
</tr>
<tr>
<td>New Orleans</td>
<td>$16.60</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>$11.07</td>
</tr>
<tr>
<td>Oakland</td>
<td>$10.98</td>
</tr>
<tr>
<td>Boston</td>
<td>$10.81</td>
</tr>
<tr>
<td>Chicago</td>
<td>$10.62</td>
</tr>
<tr>
<td>San Jose</td>
<td>$10.53</td>
</tr>
<tr>
<td>Washington D.C.</td>
<td>$10.50</td>
</tr>
<tr>
<td>King County</td>
<td>$9.89</td>
</tr>
<tr>
<td>Baltimore</td>
<td>$9.38</td>
</tr>
<tr>
<td>Average</td>
<td>$9.18</td>
</tr>
<tr>
<td>Miami</td>
<td>$8.64</td>
</tr>
<tr>
<td>Portland</td>
<td>$8.52</td>
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<tr>
<td>Los Angeles</td>
<td>$8.49</td>
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<tr>
<td>Pittsburgh</td>
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<tr>
<td>Cleveland</td>
<td>$8.17</td>
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<tr>
<td>Detroit</td>
<td>$8.13</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>$7.88</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>$7.62</td>
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<tr>
<td>Newark</td>
<td>$7.44</td>
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<tr>
<td>Orange</td>
<td>$7.37</td>
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<tr>
<td>Dallas</td>
<td>$7.33</td>
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<tr>
<td>Honolulu</td>
<td>$7.17</td>
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<tr>
<td>Las Vegas</td>
<td>$6.71</td>
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<tr>
<td>St. Louis</td>
<td>$6.39</td>
</tr>
<tr>
<td>Denver</td>
<td>$6.36</td>
</tr>
<tr>
<td>Atlanta</td>
<td>$6.30</td>
</tr>
<tr>
<td>Houston</td>
<td>$6.15</td>
</tr>
<tr>
<td>San Diego</td>
<td>$6.00</td>
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<tr>
<td>San Antonio</td>
<td>$5.44</td>
</tr>
</tbody>
</table>

San Antonio is slightly above the average cost per platform mile.
Transit Productivity

Boardings per Platform Hour
Motorbus & Trolley Bus, 2008 NTD

Cities: San Francisco, New York, Los Angeles, Honolulu, Chicago, Philadelphia, Baltimore, Las Vegas, Boston, Milwaukee, Dallas, Average, King County, Washington D.C., Oakland, Portland, Minneapolis, New Orleans, Orange, San Antonio, Atlanta, Detroit, Miami, Pittsburgh, Houston, Cleveland, San Diego, Newark, Denver, St. Louis, San Jose, Dallas


Average: 34.28
Transit Productivity

Passenger Miles per Platform Mile
Motorbus & Trolley Bus, 2008
NTD
Transit Cost Effectiveness

Operating Cost per Boarding
Motorbus & Trolley Bus, 2008
NTD

- San Jose
- Dallas
- Pittsburgh
- Newark
- Oakland
- Detroit
- Cleveland
- Miami
- Washington D.C.
- St. Louis
- Denver
- King County
- Portland
- Houston
- Average
- Orange
- Baltimore
- Minneapolis
- Boston
- Atlanta
- Philadelphia
- Milwaukee
- San Diego
- San Antonio
- New York
- Los Angeles
- Chicago
- San Francisco
- Honolulu
- Las Vegas

$0 $1 $2 $3 $4 $5 $6 $7

$5.31
$4.51
$4.43
$4.35
$4.24
$3.94
$3.94
$3.81
$3.80
$3.72
$3.67
$3.48
$3.44
$3.40
$3.34
$3.33
$3.20
$3.08
$2.87
$2.74
$2.65
$2.65
$2.55
$2.54
$2.36
$2.29
$2.28
$2.21
$1.90
$0 $1 $2 $3 $4 $5 $6 $7

Las Vegas

Average

King County

San Jose

San Francisco

San Diego

San Antonio

New York

Los Angeles

Chicago

Honolulu

Dallas

Pittsburgh

Newark

Oakland

Detroit

Cleveland

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Minneapolis

Boston

Atlanta

Philadelphia

Milwaukee

San Diego

San Antonio

New York

Los Angeles

Chicago

San Francisco

Honolulu

Las Vegas

Average

King County
Transit Cost Effectiveness

Operating Cost per Passenger Mile
Motorbus & Trolley Bus, 2008 NTD
Financial issues

- Fares: 17%
- Sales Tax: 59%
- Capital Grants: 12%
- Interest: 1%
- Property Tax: 2%
- Other: 9%

Excludes revenue for services provided to Sound Transit
Transit Operating Program Revenues:
2010/2011 = $968.1million

- Fares: 26%
- Sales Tax: 62%
- Property Tax: 3%
- Other Operations: 3%
- Interest & Other: 5%

Excludes revenue for services provided to Sound Transit.
King County Metro
Base Fares: 1985 to Present

Metro One-zone Adult Fare

- 1985 to Present

- $0.25
- $0.50
- $0.75
- $1.00
- $1.25
- $1.50
- $1.75
- $2.00
- $2.25
Transit Operating Program Projected Expense: 2010/2011 = $1,208.9 million

- Wages: 44%
- Benefits: 21%
- Parts, Supplies, Services: 12%
- Access Service Contracts: 8%
- Diesel & Trolley Power: 6%
- King County Overhead & Services: 9%
Capital Program 2009-2015: Total $1.28 billion

- Fleet (Bus, Vanpool, Paratransit): 59%
- Corridors and Passenger Facilities: 14%
- Miscellaneous and Reimburseables: 4%
- Transit Technology: 6%
- Operating Facilities: 4%
- Transit Oriented Development: 4%
- Asset Maintenance: 9%

King County METRO - We'll Get You There.
Most of Metro’s non-fleet capital program is scheduled to be completed by 2012 (RapidRide by 2014)
Sales Tax Year-to-Year Growth Rates
King County Metro - Sales Tax Shortfall

Original 08/09 Adopted Biennial Budget
June 09 Projection

Original Revenue Projection

Cumulative Projected
Revenue Loss 2009-2013
$704M

REVISED Revenue Projection

Cumulative Projected
Revenue Loss 2009-2013
$704M

Revenue Lost

Revenue Collected

Annual Gap

($104M)  ($129M)  ($145M)  ($158M)  ($168M)

Cumulative Projected
Revenue Loss 2009-2013
$704M
Objectives of the 2010-2011 Transit Budget

- Long term system sustainability
- Preserve as much existing service as possible
- Position for rebound if/when economic conditions allow or new revenue sources
Building Blocks of Transit Costs

Basic service
operate a safe vehicle with a trained driver,
reliable under normal conditions, comply with
all laws and regulations (88%)

Complementary programs
additional activities performed to support mission
and goals (6%)

Service quality
activities that meet and enhance customer and
public expectations (6%)
2009 Performance Audit

Topics included:
1) Bus Service Planning/Scheduling
2) Technology and Information Management
3) Human Resource Management (Vehicle Maintenance, Operations, Police)
4) Financial and Capital Planning
5) Paratransit
6) Fare Strategies
7) Trolley Replacement
Examples of Recommendations

Bus Service Planning/Scheduling
  - Improved training for schedulers
  - Improve accuracy of model calibration
  - Global system analysis
  - Reduce layover time in schedules

Technology and Information Management
  - Improvements to customer information systems and website, particularly for emergencies

Human Resource Management
  - Improved operator staffing model
  - Longer window for PM’s and inspections
  - Establish additional standards for maintenance tasks
Examples of Recommendations (con’t)

Financial and Capital Planning
   Improve financial planning and life-cycle costing models
   Reduce reserves in Revenue Fleet Replacement Fund

Paratransit
   Establish strategic plan to manage service costs
   Develop staffing model

Fare Strategies
   Establish fare goals and identify sources for increased fare revenue

Trolley Replacement
   Conduct comprehensive review of trolley replacement options
Key Elements of the 2010-2011 Budget

1. **Defer bus service expansion:** Suspended remaining Transit Now improvements except Rapid Ride and already-approved partnerships.

2. **Capital program cuts:** Reprioritized capital program and reduced number of buses purchased.

3. **Non-service related cuts:** Reduced supplemental programs and service quality expense by 10%.

4. **New revenue/Property tax swap:** 6.5 cents for transit; 1 cent for 520 Urban Partnership; 5.5 cents for other transit (including new Rapid Ride “F” Line).

5. **Operating reserves:** Temporary reduction for 4 years.

6. **Increase fares:** Additional general fare increase in 2011.

7. **Fleet replacement reserves:** $100 million over four years.

8. **Audit efficiencies:** Assumed 125,000 hours of scheduling efficiencies during the biennium.

9. **Bus service:** 75,000 hours of service reductions during the biennium. Additional cuts required by 2013.
The program is now balanced, but a series of service reductions and deferrals will be required over the next 5 years.