Fox Integration
Puget Sound Regional Integrator

Puget Sound Regional Council
May 11, 2005
Purpose

• Responding to PSRC RFP

• Making the case for a regional integrating agency for ITS
How can Fox Integration help?

April 2001
*ITS Integration Strategy*

May 2001
*Destination 2030*

June 2001
*Regional ITS Architecture*

May 2005
*Fox Integration*

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About Fox Integration

• Transport professionals from one of Cambridge, MA’s top universities
• Cutting-edge decision-making support tools
• Experience managing high-technology, multi-stakeholder environments
• You cannot *build* your way *out of* congestion, but you *manage* your way *through* it!

*We are your regional integration specialist*
Puget Sound Background

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## Puget Sound Background

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 population</td>
<td>3.3 million</td>
</tr>
<tr>
<td>1990-2000 growth</td>
<td>10%</td>
</tr>
<tr>
<td>Metropolitan area ranking</td>
<td>13(^{th})</td>
</tr>
<tr>
<td>2003 hours in congestion</td>
<td>46 per driver</td>
</tr>
<tr>
<td>Area (sq. miles)</td>
<td>6300</td>
</tr>
<tr>
<td>Seattle (largest city)</td>
<td>600,000</td>
</tr>
<tr>
<td>% of pop unincorporated</td>
<td>35</td>
</tr>
</tbody>
</table>
Puget Sound Background

- 4 counties
- 2 WSDOT Districts
- 7 transit agencies
- 70+ municipalities
- 2 Class I railroads (UP & BNSF)
- 2 major ports (Seattle & Tacoma)
Puget Sound Transportation Goals, I

• Maintain existing infrastructure and services
• Encourage growth within Urban Growth Boundary
• Improve all modes of transportation through innovative strategies to build financial capacity to invest in transport
Puget Sound Transportation Goals, II

• Tailor recommendations at the sub-regional and corridor levels, in recognition of the region’s social, physical and cultural diversity

We can achieve these goals through regionally-integrated ITS
The Fox FOCUS

- Flexibility
- Overarching consistency
- Congestion pricing
- Understanding our customers
- Seamless transportation system
Focus 1: Flexibility

• Options add value
• Why ITS?
  – Technology can increase capacity without committing land and durable resources
  – Infrastructure is not flexible; ITS is
  – Need a regional integrator for consistent flexibility choices
Focus 2: Overarching consistency

• FHWA National ITS Architecture rules provide interoperability and coordination guidelines

• Why ITS?
  – To meet FHWA requirements → funding
  – Common structure that is locally adaptive
  – ITS considers all stakeholders
Focus 3: Congestion pricing

• A form of demand management that provides differentiated customer service

• Why ITS?
  – Provides the technology necessary to carry out pricing

• Decision-making technical tools such as access to the Ensor Model
# Ensor Model

![Microsoft Excel - Seattle_Results](attachment:image.png)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Index Scores</th>
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<tbody>
<tr>
<td>Network Pricing</td>
<td>223</td>
</tr>
<tr>
<td>Area-Wide Pricing</td>
<td>89</td>
</tr>
<tr>
<td>Add New HOT Lane</td>
<td>81</td>
</tr>
<tr>
<td>Convert HOV to HOT Lane</td>
<td>79</td>
</tr>
<tr>
<td>Cordon Pricing</td>
<td>77</td>
</tr>
<tr>
<td>Facility Pricing</td>
<td>63</td>
</tr>
<tr>
<td>Distance-Based Pricing</td>
<td>57</td>
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<tr>
<td>No Pricing</td>
<td>24</td>
</tr>
<tr>
<td>Conventional Tolling</td>
<td>22</td>
</tr>
</tbody>
</table>

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Road pricing options

- **Network Pricing**: Network pricing is the purest form of congestion or marginal-cost pricing, i.e., it is *first-best* pricing.
- **Distance-based pricing**: Distance-based pricing requires vehicles to pay charges that are based on the number of miles traveled.
- **Area-wide pricing**: Area-wide pricing charges vehicles a fee for crossing a cordon (central business district) surrounding a defined area, driving within the area, parking on public roads inside the area, or a combination of these measures.
- **Cordon pricing**: A form of area-wide pricing, but vehicles are not charged for traveling within the cordon zone.
- **Express (e.g. HOT) lanes**: Express lanes charge certain vehicles for the use of dedicated (managed) lanes on an expressway that have a premium level-of-service (LOS). HOT lanes allow HOVs to travel on the express lanes at no charge or at a discount.
- **Facility (congestion) pricing**: Similar to traditional tolling, but the tolls vary either by level-of-congestion or time-of day.
- **Conventional (flat-rate) tolling**: Tolling all lanes of a facility with a charge that does not vary by level-of-congestion or time-of-day.
Focus 4: Understanding our customers

• Transportation providers have to become “customer-centric” organizations to remain competitive in the 21st century

• Why ITS?
  – Allows agencies to provide better information and greater convenience to their end-users
  – Diverse constituent needs, from the daily bus commuter to the international freight shipper
Focus 5: Seamless transportation system

- Integration of transportation systems using ITS will allow for “seamless” transfers of passengers, goods, and information

- Why ITS?
  - Interagency linkages facilitated by ITS technology are the “seamless” systems we seek to develop
  - ITS can provide the incentive for agencies to cooperate to develop seamless linkages
The Fox Focus

• Flexibility
• Overarching consistency
• Congestion pricing
• Understanding our customers
• Seamless transportation system
Contractual Role

• To provide regional integrator services including managing implementation and strategy developments
• To serve as a central, coordinating force among PSRC agencies
• To engage member agencies in strategic subsets for project-specific ITS implementations

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Organizational Structure

Unmanaged Organizational Structure  Structure Managed by Fox Integrators

Municipalities (70+)

WSDOT Districts (2)

Counties (4)

Ports (2)

Railroads (2)

Transit Agencies (7)

Ferries

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Financial Strategy

• Distribute PSRC’s ITS funds to member subsets on a project-specific basis
• Revenues from road-pricing initiatives to be repaid to PSRC
What is the role of traditional ISPs in PSRC’s Destination 2030?

The Seattle Traveler

EDITORIALS

• Many users unwilling to pay for ATIS that Destination 2030 advocates
• Growing segment of older travelers rely on traditional media channels for travel information
• Relationships with existing ISPs, therefore, must be preserved by PSRC and any Regional Integrator they commission
Conclusions

• Myriad of public agencies have not proven ability to implement PSRC’s *Destination 2030* on their own

• Implementation goals are littered with ‘priorities’ and achievement strategies are unfocused as they stand

• Powerful agencies are overlooking potential of initiatives with ports and traditional ISPs
Conclusions

• Capacity to approach project from a FOCUSed perspective
• Analytical tools and research to optimize implementation goals
• Strengthen existing relationships while building new links
• Integrate technology, systems, and institutions to meet regional transportation system goals