

Operational and Pricing Strategy Options

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New Leadership: Priorities

The new Assistant Secretary for WSDOT Ferries Division, David Moseley, has the ferry financing legislation as a top priority for the organization.

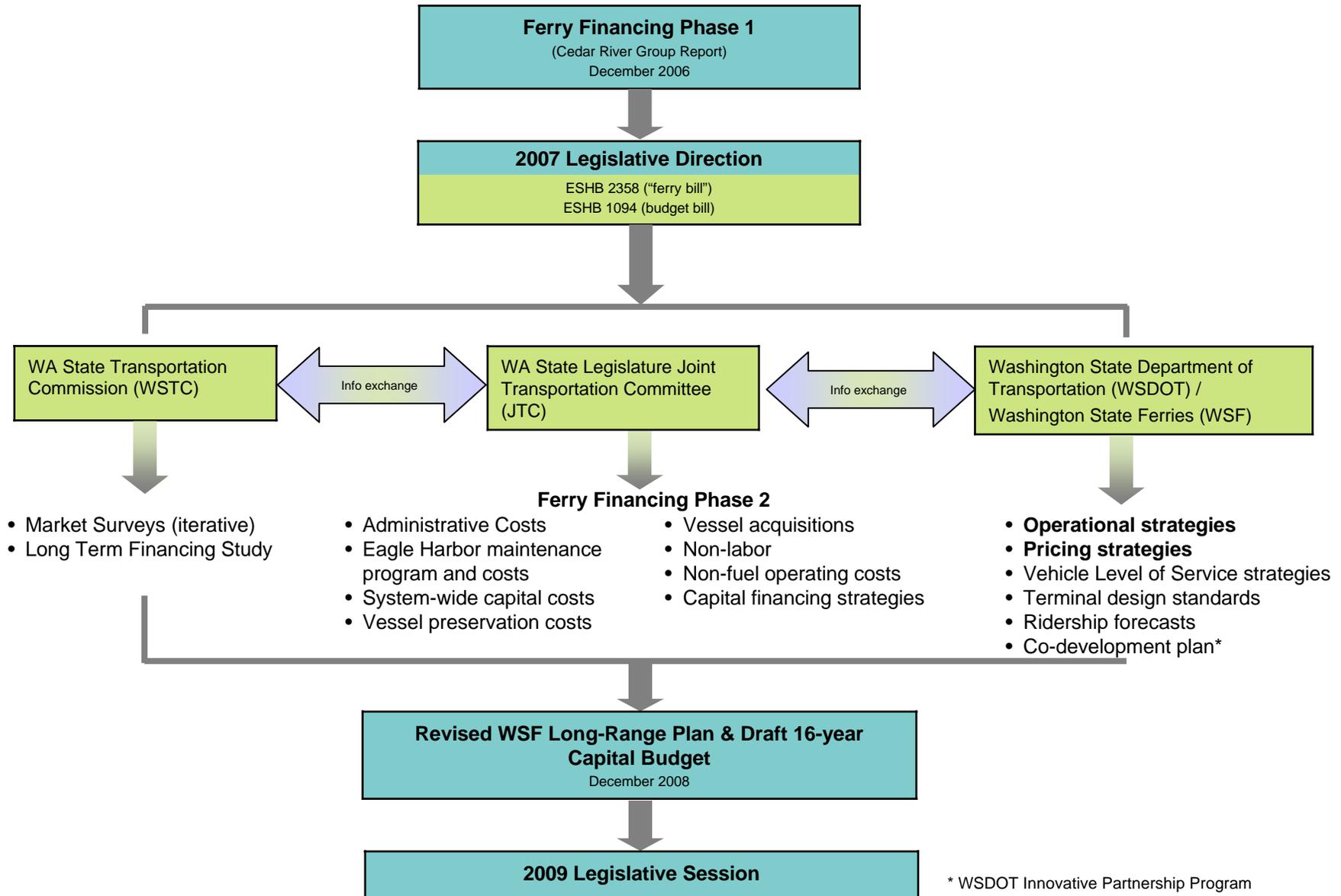
- Ferry Financing Legislation
- Vessel maintenance and preservations
- Customer information and communication
- Vessel Replacement Program

Why Are We Here Today?

The Ferry Financing Legislation (ESHB 2358) states:

“... it is the intent of the legislature that Washington state ferries be given the tools necessary to maximize the utilization of existing capacity and to make the most efficient use of existing assets and tax dollars.”

Ferry Financing Legislation Work Program



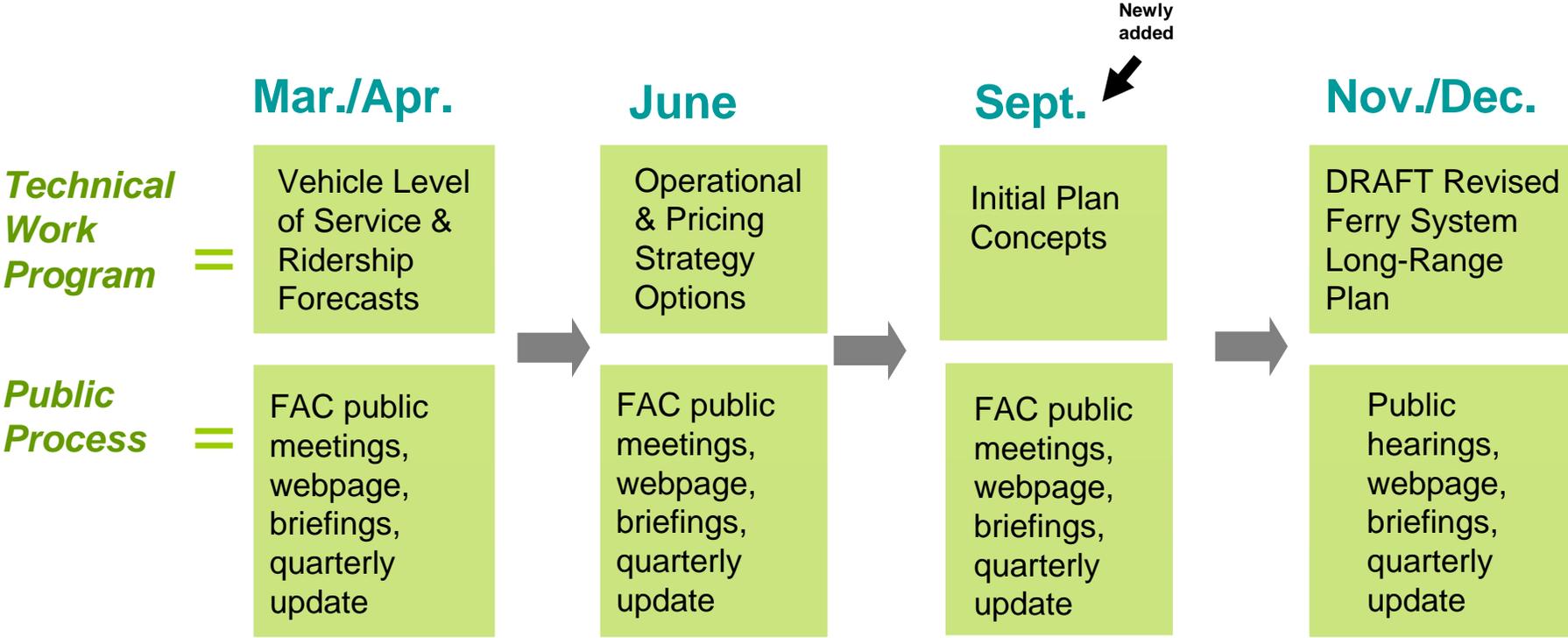
What Are The Major Areas of Study?

The Washington State Department of Transportation Ferries Division is directed by the legislature in ESHB 2358 to evaluate:

- Ridership forecasts
- Level-of-service standards
- **Operational strategies**
- **Pricing strategies**
- Terminal design standards

What Is The Work Plan?

The work culminates in a revised long-range plan for the ferry system.



Goal of Operational and Pricing Strategies

ESHB 2358:

“... it is the intent of the legislature that the Department of Transportation adopt adaptive management practices in its operating and capital programs so as to keep the costs of the Washington state ferries system as low as possible while continuously improving the quality and timeliness of service.”

Key Discussion Questions

- How do we encourage people to walk on the ferry?
- How do we spread out vehicle demand for the system?
- What would make an effective reservations system?
- When should any of the above be implemented?

Legislative Direction: Operational Strategies

In 2007 Legislature enacted ESHB 2358: “The department shall develop, and the Commission shall review, operational strategies to ensure that existing assets are fully utilized and to guide future investment decisions. These operational strategies **must**, at a minimum:

- Recognize that each travel shed is unique, and might not have the same operational strategies;
- Use data from the current market survey conducted by the WSTC;
- Be consistent with vehicle level of service standards;
- Choose the most efficient balance of capital and operating investments by using a life-cycle cost analysis;
- Use methods of collecting fares that maximize efficiency and achieve revenue management control;
- Consider the impacts on users, capacity, and local communities; and
- Keep the fare schedules as simple as possible.

Legislative Direction: Operational Strategies

continued

In developing operational strategies, the following, at a minimum, **must** be considered:

- The feasibility of a reservations system;
- Methods of shifting vehicular traffic to other modes of transportation;
- Methods of improving on-dock operations to maximize efficiency and minimize operating and capital costs;
- A cost-benefit analysis of remote holding versus over-water holding;
- Methods of reorganizing holding areas and minimizing on-dock employee parking to maximize the dock size available for customer vehicles;
- Schedule modifications;
- Efficiencies in exit queuing and metering;
- Interoperability with other transportation services;
- Options for leveling vehicle peak demand; and
- Options for increasing off-peak ridership.”

Legislative Direction: Pricing Strategies

In 2007 Legislature enacted ESHB 2358 which requires:

“the department shall annually review fares and pricing policies applicable to the operation of the WSF...the department shall develop fare and pricing policy proposals that **must**:

- Recognize that each travel shed is unique, and might not have the same farebox recovery rate and the same pricing policies;
- Use data from the current market survey conducted by the WSTC;
- Be developed with input from affected ferry users by public hearing and by review with affected ferry advisory committees, in addition to the market survey;
- Generate the amount of revenue required by the biennial transportation budget;
- Consider the impacts on users, capacity, and local communities; and,
- Keep the fare schedules as simple as possible.”

While developing fare and pricing policy proposals, WSF **must** consider the following:

- Options for using pricing to level vehicle peak demand; and
- Options for using pricing to increase off-peak ridership.

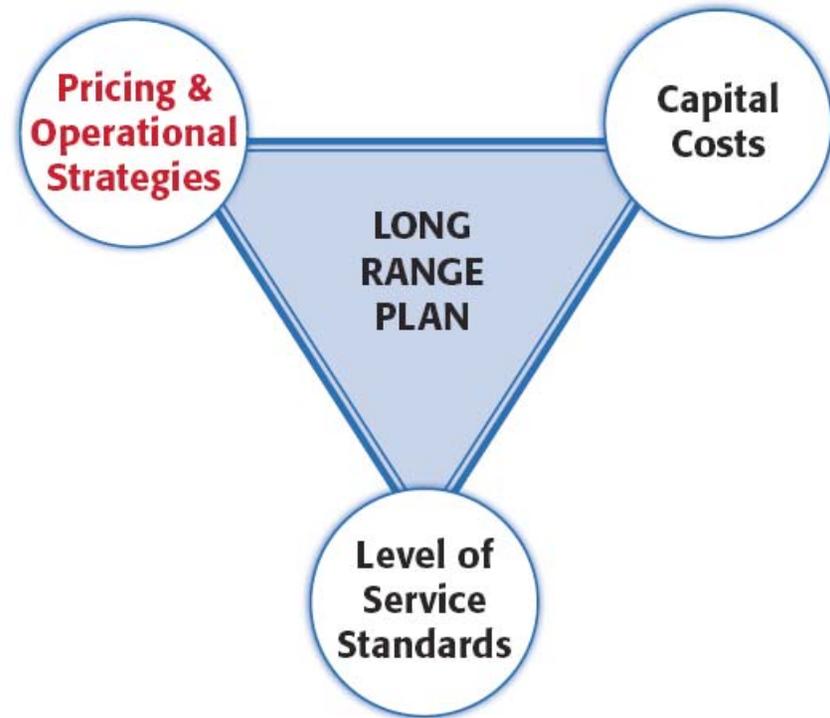
In 2008, the Legislature enacted ESHB 2878 which added:

- While developing fare and pricing policy proposals, the department **may** consider the desirability of reasonable fares for persons using the ferry system to commute daily to work and other frequent users who live in ferry-dependent communities.

Strategies and the Long Range Plan

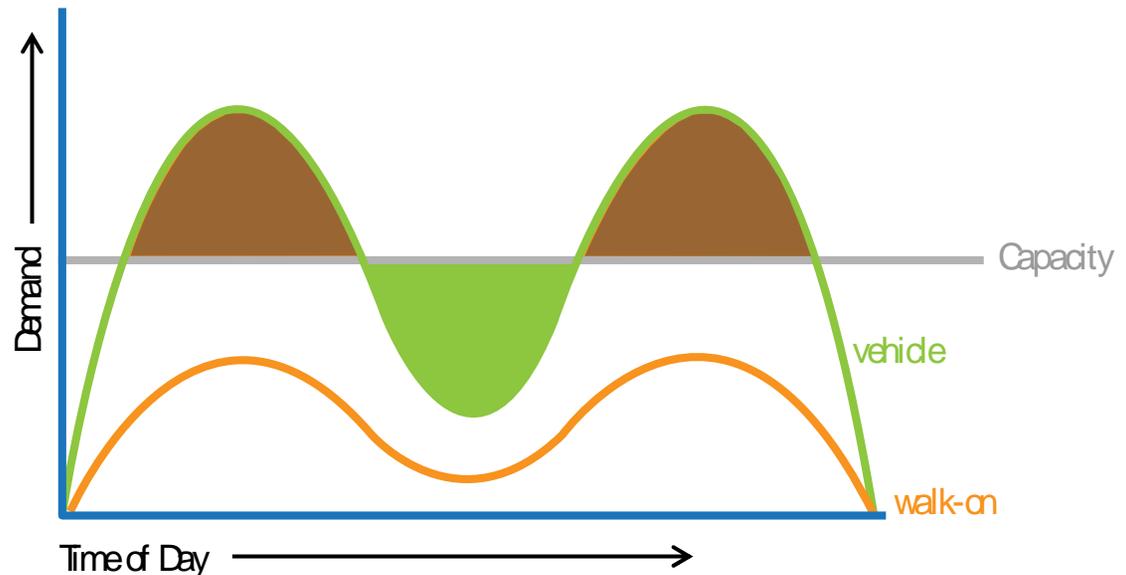
Operational and Pricing strategies will be:

- The foundation for a balanced plan to address long-term needs of the ferry system.
- Implemented incrementally over time on a route by route basis as required to manage demand and effectively utilize existing assets.
- Designed to work together to achieve transportation demand management objectives.



Supply and Demand: The Imbalance

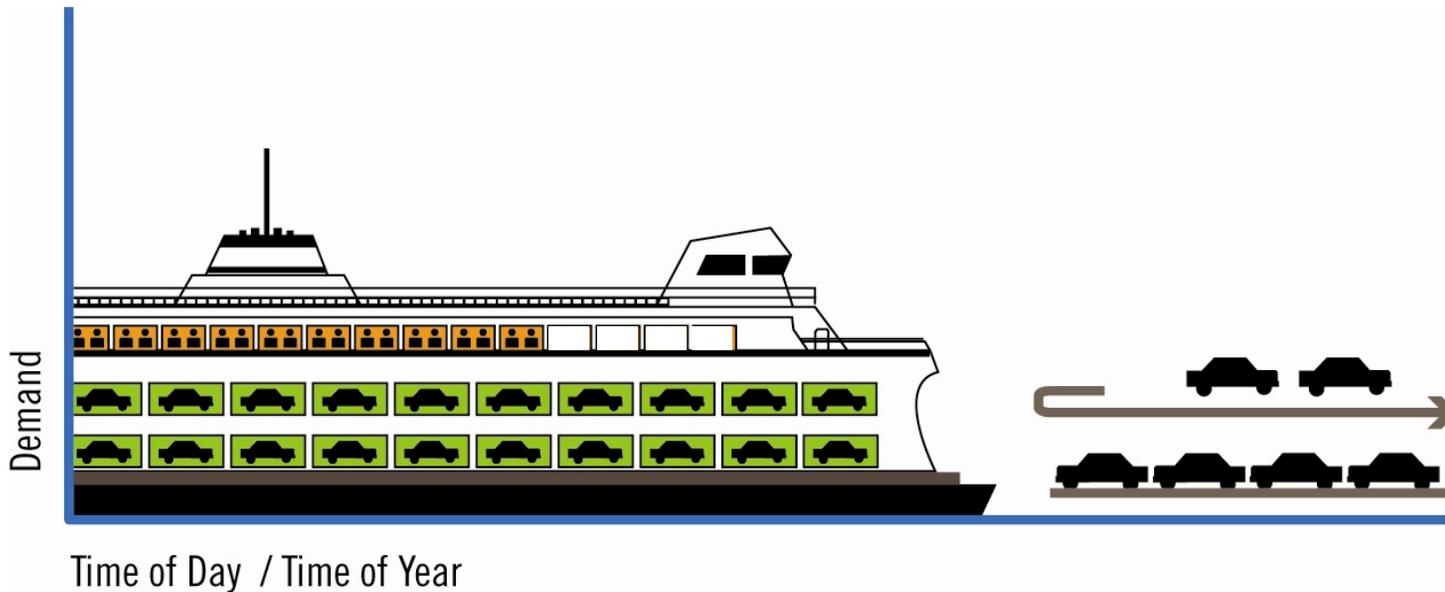
- Vehicles are the constraint
- Excess vehicle demand in specific times of day, week, and by season.
- Expanding supply (accommodating more vehicles) is expensive. The system faces increasingly high capital and operational costs.
- Excess capacity in specific times of day, week, and by season.
- Excess walk-on capacity all the time.



The ferry system is not unique in this challenge. Cell phone, electricity and water providers also deal with balancing supply and demand.

Supply and Demand: The Consequences

- System imbalance:
 - congestion in peak periods
 - underutilized vessels and facilities in off-peak times



- Unhappy customers and avoidance of the system.
- Queue impacts on ferry communities and the environment.

What has been done to address the operational and pricing legislative directives?

Step 1

Conducted a thorough examination of all current strategies in place at the ferry system and other transportation agencies to develop a long list of strategies.



Step 2

Screened strategies based on the following criteria:

- Manages Demand
- Increases operation efficiency
- Customer convenience
- Ferry terminal community impacts
- Environmental impacts
- Ease of implementation
- Capital costs
- On-going operating cost
- Interaction with other strategies



Step 3

Strategies were categorized into nine groups:

- Pricing
- Reservations
- Transit Access Enhancements
- Technologies for Improved Fare Collection
- Non-motorized Access Enhancements
- Enhanced User Information
- Promotion of Non-SOV Modes
- Traffic and Dock Space Management
- Parking and Holding

Pricing

Designed to manage demand, including strategies such as:

- Peak period or congestion pricing
- Mode shift pricing
- Off-peak discount pricing
- Pricing simplification

Primary Benefits

- Encourages time shift
- Encourages mode shift
- Attracts new demand to underutilized passenger capacity
- Reduces queue lengths

An example from King County Metro

	Cash Fares	
	Off-Peak	Peak
One Zone	\$1.50	\$1.75
Two Zone	\$1.50	\$2.25
Youth (ages 6-17)	\$0.50	\$0.50
Seniors/Persons with Disabilities (with Reduced Fare Permit)	\$0.25	\$0.50
Access Transportation (Paratransit)	\$0.75	\$0.75

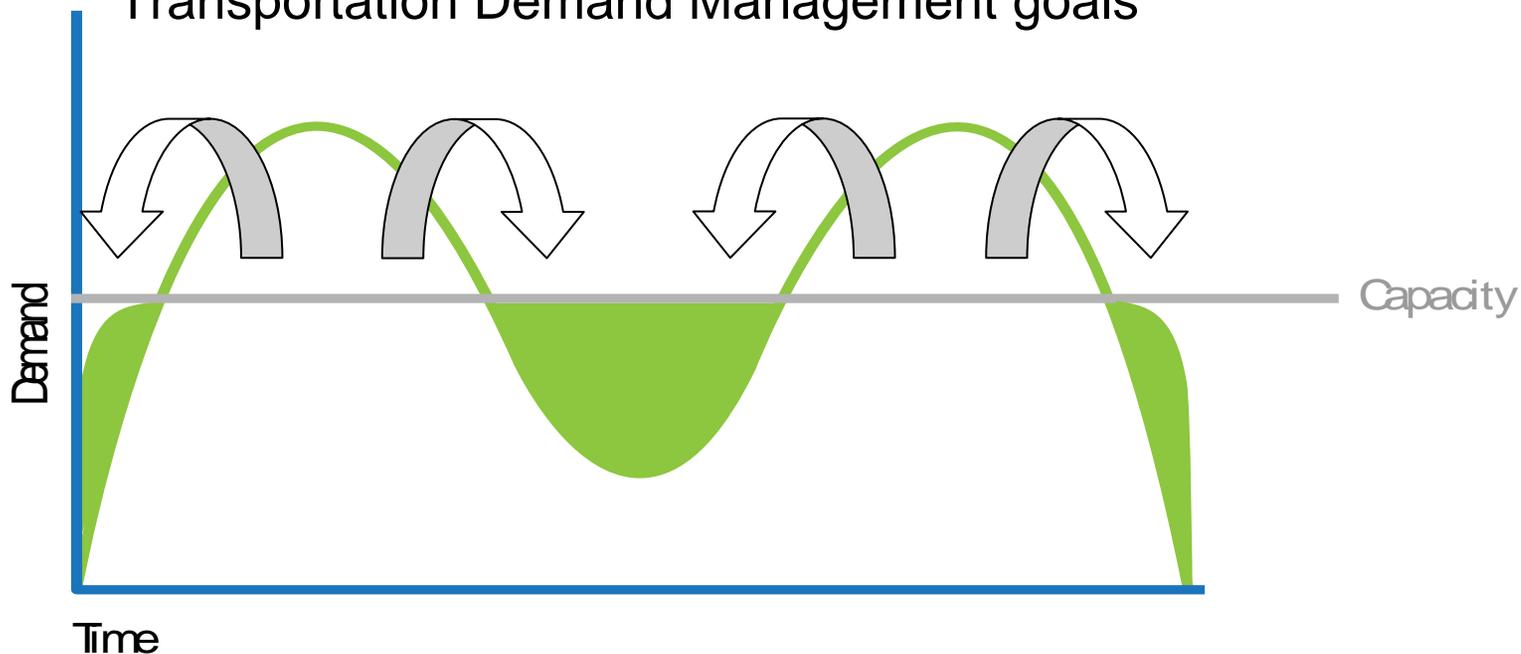
Application/Implementation

- Evaluated from a revenue neutral standpoint
- Most effective during peak periods and on routes with the highest vehicle demand
- Price to address each route or travel-shed according to the primary customer types
- Highly compatible with a Reservations System

Opportunity: Peak Period Pricing to shift vehicle demand

Targeted pricing by route during peak and off-peak periods

- Increase prices for vehicles when demand is high
- Decrease prices for vehicles when demand is low
- Look for options to integrate frequent user policies and Transportation Demand Management goals

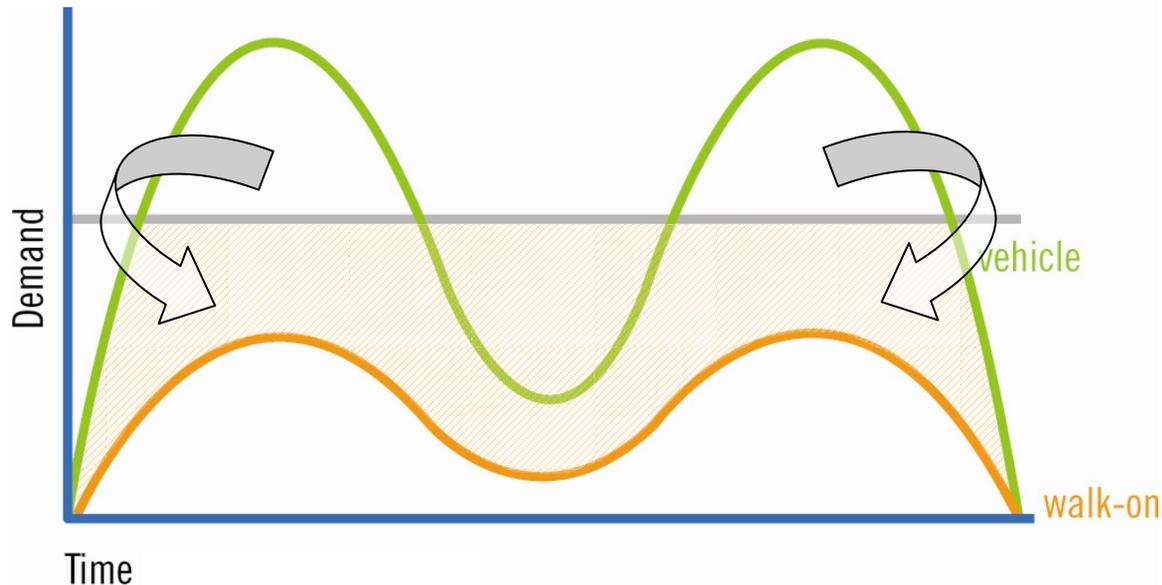


Opportunity:

Attract customers to walk-on mode

Options:

- Lower passenger fares relative to vehicle fares
- Simplify fares into a zonal system:
 - all routes south of and including Mukilteo-Clinton: “commuter”
 - Port Townsend, San Juan Islands, and international
- Targeted pricing (i.e. senior discount, youth discount, etc...)



Opportunity: Manage vehicle deck space

- More small vehicles will fit on a ferry than will big vehicles.
- Options might include:
 - Increase price for larger vehicles during peak periods
 - Discounts in off-peak periods
 - Discount “small vehicles”



Opportunity:

Balance demand amongst multiple routes

Employ pricing incentives and disincentives to shift demand from congested routes to those with excess capacity:

- Kitsap County routes – Kingston, Bainbridge, Bremerton, and Southworth
- Vashon Island routes – balance between North end and South end routes

Reservation Systems

Concept:

- Customers buy a vehicle fare for a specific sailing and for a specific vehicle.
- Reservations are made at automated walk-up kiosks, over the phone, or online.

Primary Benefits

- It is simple for the customer to make a reservation and ONLY involves autos
- It moves the queue from the terminals to the digital world
- Implementation is very flexible
- Each sailing may be treated differently depending on demand and the needs of current users
- Changes to pricing are not required for implementation
- Positive environmental and community impacts

Example from Istanbul

The screenshot shows the 'RESERVATION & PURCHASE' interface for Istanbul Fast Ferries. It includes a search form on the left and a results table on the right.

Search Form:

- From: YENIKAPI
- To: YALOVA
- Departure Date: 14 Mar 2008
- Return Date: 14 Mar 2008
- Vehicle Type: MİNIBÜS+1 SPOR TUK
- Number of Passenger: 0

Results Table:

Date	Time	Ticket Type	Ship Type	Available Seat	Available Vehicle	P. without vehicle	Status
14.03.2008	05:30	Numerali	Feribot	463	0	171	✓
14.03.2008	11:30	Numerali	Feribot	404	6	173	✓
14.03.2008	15:30	Numerali	Feribot	427	6	141	✓
14.03.2008	18:30	Numerali	Yalco	416	0	416	✗
14.03.2008	19:30	Numerali	Feribot	442	8	146	✓
15.03.2008	09:30	Numerali	Feribot	468	8	163	✓

Navigation: <Previous Next>

Second Table:

Date	Time	Ticket Type	Ship Type	Available Seat	Available Vehicle	P. without vehicle	Status
14.03.2008	11:30	Numerali	Feribot	478	6	169	✓
14.03.2008	15:30	Numerali	Feribot	477	8	172	✓
14.03.2008	19:30	Numerali	Feribot	478	6	169	✓
14.03.2008	19:30	Numerali	Feribot	483	0	370	✗
15.03.2008	07:30	Numerali	Yalco	444	0	444	✗
15.03.2008	09:30	Numerali	Feribot	409	6	168	✓
15.03.2008	11:30	Numerali	Feribot	487	8	169	✓

Navigation: <Previous Next>

Reservations for voyages in 48 hour time are not allowed. CONTINUE

Application/Implementation

- Can be designed to fit the ferry system
- Requires up front capital investment, but low ongoing operating costs
- Highly compatible with peak period pricing
- Adaptable to local conditions
- Possible roll out first on high demand routes (i.e. Port Townsend, Central Puget Sound) and refine system operation accordingly

Considerations of an effective vehicle reservations system?

1. **Variable control over each sailing:** a flexible system designed to ensure reasonable access for different types of customers

- Overall percent of vessel capacity reserved.
 - End state goal: 90 to 95% reserved on any sailing where demand/capacity ratio is more than 80%.
- How quickly reserved capacity is available
 - Vary by prime customer type by route (e.g. 10% two months ahead, 30% two weeks ahead, 50% two days ahead, 70% one day ahead, 100% two hours ahead, etc.)

Considerations of an effective vehicle reservations system?

2. Customer Access

- Web-based – fully interactive system
- Phone based – 24/7 staffed reservation line
- Walk-up based – remote, likely shared, sites away from terminals
- Customers view on-line current state of reserved capacity and wait list.

3. Terminal Access

- Ensure access for reserved customers as system is implemented
- Automated vehicle processing - transponders and license plate recognition
- Driver information system on terminal approaches with remote sites for reservations and fare transactions.

Considerations of an effective vehicle reservations system?

4. System flexibility

- System can be adjusted according to state of implementation and characteristics of demand.
- System must operate as nearly as possible to real time.
- Ability to change or cancel reservations at a cost.
- Ability to book multiple reservations for same sailing, one or two weeks at a time.

5. Fare Payment

- No additional reservation fee required if fare is paid when booking is made.
- Could introduce “earned discounts” based on frequent use.
- Demand pricing is not a necessary component.

Transit Access Enhancements

This category includes strategies such as:

- Improved transit connections and frequencies
- Improved transit access at terminals
- Expanded park-and-ride capacity
- Improved transit/ferry schedule coordination
- Real time transit arrival, departure and connections information
- Sheltered transit facilities at terminals



Primary Benefits

- Mode shift
- Attracts demand to available capacity
- Queue reduction
- Adds customer convenience
- Positive community and environmental impact

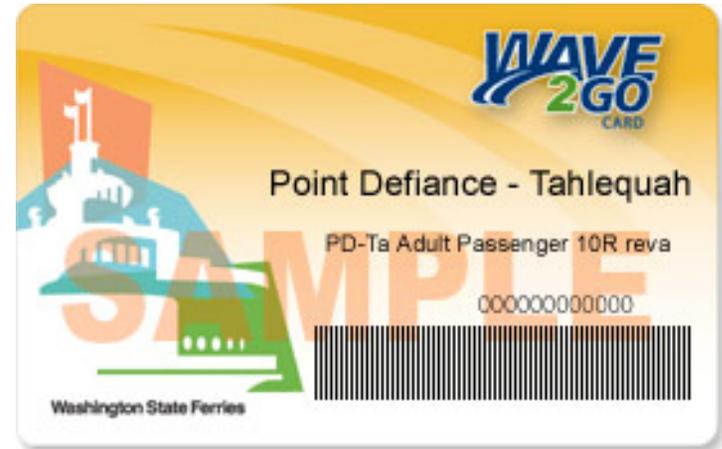
Application/ Implementation

- System-wide applicability
- Requires partnering with transit agencies. Limited control over implementation
- Some elements easy to implement in short term, others geared for medium-long term
- Requires significant financial investment

Technologies for Improved Fare Collection

This category includes strategies such as:

- Optimized electronic fare system
- Fully automated system
- Transponder-only lanes
- Expanded fare card coordination and marketing
- Limit payment forms accepted
- Round-trip ticketing



Primary Benefits

- Reduces average ticketing time
- Reduces queues outside tollbooth
- Adds customer convenience
- Shortened queues creates a positive community impact

Application/Implementation

- System-wide application
- Implement some elements in the short-term (i.e. limited payment forms)
- Optimized fare collection needed to implement reservation systems
- Fully optimized fare collection on automated system = development costs

Non-motorized Enhancements

This category includes strategies such as:

- Improved pedestrian connections and facilities
- Improved bike connections and facilities

Primary Benefits

- Mode shift
- Attracts demand to available capacity
- Queue reduction
- Adds customer convenience
- Positive community and environmental impact



Application/Implementation

- System-wide applicability, most impact realized in mixed-use higher density terminal areas
- Relatively low cost compared to other modal infrastructure investments
- Some elements could be implemented in short term, others require partnering with local jurisdictions (i.e. connecting bike trails)

Enhanced User Information

This category includes strategies such as:

- Automated route planning
- Real-time queuing, departure transit and wait information
- Wayfinding: bicycles and pedestrians
- Wayfinding: parking
- Real-time parking capacity information

Primary Benefits

- Encourages mode shift
- Encourages time shift
- Attracts demand to available capacity
- Provides a premium customer convenience
- Positive community and environment impacts

Example: Bay Area 511 Route Planning

The screenshot shows a web interface for the Bay Area 511 Route Planning service. At the top, there are two promotional banners: "Union Square Hotel Deals" and "Arterra Homes For Sale". Below these, a form titled "Specify your stop to obtain predicted time for the next vehicles:" contains five numbered steps:

- 1 State/Prov: California-Northern
- 2 Agency: Water Transit Authority (WTA), CA
- 3 Route: Vallejo Baylink Ferry
- 4 Direction: To San Francisco
- 5 Stop: San Francisco Ferry Building Gate B - Arrival

To the right of the form, there are several links and icons: "WATER TRANSIT AUTHORITY", "agency website", "Transit Schedule", "schedule", "Live Map", "Google M", and a weather icon showing "Ply Cloudy" with a high of 56, current of 53, and low of 46. Below the form, a message reads "Vallejo Baylink Ferrys Running On Schedule. Have A Good Day." and a large green box displays "Next vehicle for route Vallejo Baylink Ferry in: 6 minutes". At the bottom, it says "Valid as of 12:20 PM Monday, April 21".

Application/Implementation

- System-wide applicability
- Real-time parking capacity information will have biggest impact at terminals with constrained parking supply (Bainbridge, Port Townsend)
- Up front investment needed to develop automated systems

Promotion of Non-SOV Modes

This category includes strategies such as:

- Partnering with Transportation Management Associations (TMAs)
- Expanded carpool definition and HOV priority
- Creation/incentives for car-sharing pods at terminals
- Subsidization of taxi and/or rental car services
- General ongoing marketing and promotion of non-SOV modes of ferry access



Primary Benefits

- Mode shift
- Attracts demand to available capacity
- Queue reduction
- Adds customer convenience
- Relatively low cost
- Positive environmental impact

Application/Implementation

- System-wide applicability
- Roll out in Central Puget Sound first where more transit, bike and ped options are already in place, and a TMA exists (Urban Mobility Group)
- Relatively easy to implement, may require additional staffing

Traffic and Dock Space Management

- **This category includes strategies such as:**
- Traffic management
- Metered exit queuing
- Minimize employee parking at terminals
- Reorganize flow and lane usage
- Relocate non-essential function from immediate holding area



Primary Benefits

- Reduces queues outside of the holding area
- Improves the clarity and usability of the ferry system for all passengers
- Improves traffic flow on adjacent street network

Application/Implementation

- Specific terminal applicability
- Easily implemented in the short-term
- Low capital and ongoing operating costs
- Employee parking occupies valuable holding space especially at Colman Dock, Bainbridge and Kingston
- Changes to employee parking procedures require working with labor unions

Parking and Holding

This category includes strategies such as:

- Parking reservation system
- Shared parking
- Decentralized holding
- Increase parking capacity at terminals



Primary Benefits

- Increased parking supply can encourage mode shift (park car and walk on)
- Reduces vehicle queue
- Adds customer convenience
- Attracts new demand to underutilized passenger capacity

Application/Implementation

- New parking and holding capacity has high capital costs
- Shared parking is low cost, but requires coordination with owners of nearby parking
- Parking may require connecting shuttle services, improved bike and ped connections and wayfinding
- Expanded parking supply could meet with community opposition

Key Discussion Questions

- How do we encourage people to walk on the ferry?
- How do we spread out vehicle demand for the system?
- What would make an effective reservations system?
- When should any of the above be implemented?

Next Steps

- Continue evaluation of most promising options
- Integrate public comments and feedback from stakeholders
- Integrate WSTC survey results
- Develop packages of strategies and investments that address long-term needs:
 - Operating and pricing strategies
 - Level-of-service standards
 - Strategic expansions of service
 - Overall funding capacity/requirements