The South Waterfront District and the Portland Aerial Tram

How infrastructure investment can catalyze redevelopment and remove barriers to healthy lifestyles
Role of transportation infrastructure in creating healthy communities

Removing barriers and making connections

Creating a physical environment that supports healthy communities
  - Allow people to make healthy decisions effortlessly

Coordinated investment builds on existing and planned infrastructure to create an expanding network
  - Results multiply
South Waterfront District

Oregon Health & Science University Campus

PSU and Downtown Portland

South Waterfront District
South Waterfront District

Timber and industrial development  1939

Steel salvage and ship dismantling  1966

Ship dismantling  1970
South Waterfront District

A void is open space where opportunity lies...
The Vision:
To create a Science and Technology Quarter by partnering with:

- PSU
- OHSU
- OMSI
- S. Waterfront District
South Waterfront District

- **Central District** - 5,000 jobs and 2,700 housing units

- **At Build Out** - 10,000 jobs and 5,000 housing units

- World class academic and research partnerships

- Urban District where residents and employees can utilize the district’s transit service and proximity to downtown in making their transportation decisions
South Waterfront District

Land Use

Office, Institutional, Bio-Science Emphasis

Institutional Emphasis

Residential Emphasis

Retail Emphasis

Transitional Emphasis
South Waterfront Phase 1 Financing

- Mix of public and private investment projected to total over $2 billion at build-out.
- Early investment in infrastructure primes the South Waterfront District for redevelopment.

Phase 1 investments through 2008 include:
- $440 million in private investment in direct new building development
- $122 million in public projects (financed by public & private sources)
  - $70 million in public sources (including $30.8 million of Tax Increment Financing)
  - $52 million in private sources (including local improvement district funds)

City Responsible for:
- Street Infrastructure
- Streetcar
- Tram
- Parks and Greenway
South Waterfront District

Transportation Infrastructure

• Establish street grid

• Transit
  • Streetcar
  • Bus
  • Tram

• Pedestrian and Bike Connections
  • Greenway Trail
  • Gibbs Street Pedestrian Bridge
South Waterfront District

Open Space Infrastructure

• 100’ min. Greenway

• 150’ Greenway Goal

• Neighborhood Parks

• River Presence
Connecting OHSU to South Waterfront
OHSU/ Marquam Hill Plan

Constrained Campus - topography, heavy traffic

1996 - OHSU began research into North Macadam Expansion

Considered suburban expansion to OGI campus

Needed fast and reliable link to South Waterfront
South Waterfront and OHSU

How to make the Link?
Barriers to accessing OHSU Campus

• Limited road infrastructure
• 400-500 feet of elevation gain
Connection Options Considered

**Options Considered:**

- Funicular rail
Connection Options Considered

Options Considered:
- Streetcar
Connection Options Considered

Options Considered:

- Tram
- Gondola
Connection Options Considered

Options Considered:

- Shuttle Bus
Connection Options Considered

Options Considered:
• People mover
Connection Study undertaken by OHSU to explore linking two campuses

Options Considered:
- Funicular rail
- Streetcar
- **Tram**
- Gondola
- Bus
- People mover

Trams and other aerial ropeways are the best solution when physical barriers make other transportation solutions infeasible.
Recommended Alternative: Aerial Tram

- **Transportation Capacity** 900 people per hour per direction capacity. Shuttle bus option only has capacity for 180 passengers per hour.

- **Travel Time** 200 seconds regardless of surface traffic conditions.

- **Neighborhood Livability** lowest level of impact on the adjacent neighborhood due to lack of structures, noise and reduced number and frequency of vehicles required.

- **Maintenance Considerations** Tram technology is the most reliable and mechanically simple of aerial technology.

- **Development Impacts** An effective aerial system provides the economic spark for the South Waterfront District spurring redevelopment.
Creating Convenient Connections

- OHSU Campus
- PSU and Downtown
- South Waterfront District
About the Portland Aerial Tram
Bicable Aerial Tram

- 2 Stationary track ropes per side
Bicable Aerial Tram

- 2 Stationary track ropes per side
- 1 Circulating haul rope
Bicable Aerial Tram

- 2 Stationary track ropes per side

- 1 Circulating haul rope

- 2 Cabins, 80 passengers each

- “Jig Back” operation

- 12 Ton cabins
Bicable Aerial Tram

- 2 Stationary track ropes per side
- 1 Circulating haul rope
- 2 Cabins, 80 passengers each
- “Jig Back” operation
- 12 Ton cabins
- 1,000,000 lbs. of force in tension
Value Engineering Option - 2
Completed Tower
Cabin arriving at Upper Terminal
Making the Bicycle Connection

Tram connects OHSU to waterfront trails and city bikeway network
Making the Bicycle Connection

Bike facilities

**South Waterfront**
25 spaces at the Tram Lower Station
83 spaces in the New OHSU Center for Health and Healing

**OHSU Marquam Hill Campus**
420 bike racks, 32 bike lockers
Making the Bicycle Connection

Bike Commuter Punch Cards

• $50 per 35 punches
• Receive 100 punched cards every 2 weeks
OHSU March Wellness Center
Located in New OHSU Building at the Tram Lower Station

Many dimensions of wellness – physical, emotional, intellectual, spiritual, financial, social and creative

**Facilities**

Pools, Gymnasium, Cardio fitness & strength training, Group class spaces

Teaching kitchen, Life design center, Day spa

**Enrichment Courses**

Financial health seminars
Foreign language conversation groups
Living simple discussion groups
Tram operations and impact on bicycle use
Tram Operations

Exceeding Ridership Projections

• Projected: 1500-3000 per day

• Actual: 4000+ per day

• OHSU employee usage nearly double projected ridership

• Public ridership Approx 15% of total ridership

• 1 Million Riders total since January 2007 opening
Results

Overwhelmed with Bikes!

200-300 bikes parked at the tram lower station and nearby lockers
Results

OHSU Bike Commute Challenge
Participation increased 257%
2006- 156 Participants
2007- 402 Participants

Over 200-300 bikes per day are brought on the Tram cabins daily
Results

- 75 Additional bike racks installed - Full
- Additional covered bike parking facility planned
Results

Bicycle Counts
• Bicycle counts in South Waterfront increased 135% since the Tram’s Opening
• Other bike route to OHSU (Sixth and Sheridan) declined 44%

Conclusion:
• Some existing cyclists are re-routing to avoid the 400 foot climb to the campus
• New cyclists are using Aerial Tram to access OHSU Campus
Results

OHSU Center for Health and Healing-
1st Building in South Waterfront
400,000 Sq Ft of Medical Office + March Wellness

Work Commute Survey
33% Transit
11% Walk/Bike
44% Total
Results

$440 Million in Private Investment

New 20 acre OHSU academic campus planned for district

Hundreds of new housing units- Condo’s and apartments
Conclusions

Aerial Tram and other South Waterfront infrastructure investment was effective in influencing travel behavior and other lifestyle decisions.

Each new project removes barriers to change the overall picture of what each individual believes is possible—results multiply.
Questions?