



Toyota Logistics Service

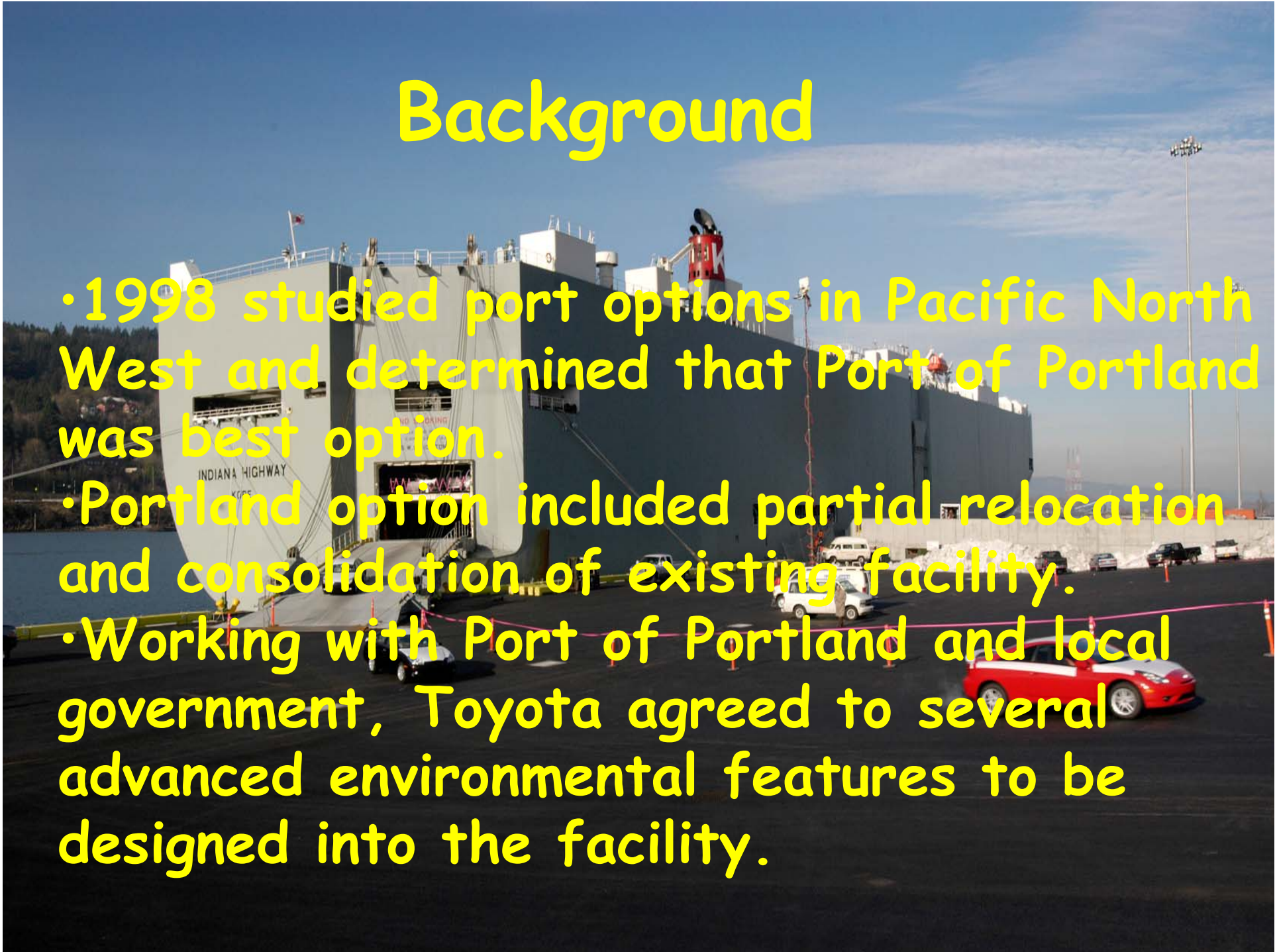
Portland Vehicle Distribution Center Redevelopment

Background

- Toyota operating in the Port of Portland since 1976.
- Import only based business model for Toyota when developed.
- 1990's business model shifted to dual source business model 65% North American, 35% Import.
- Toyota studied port requirements in United States during the 1990's and reduced ports from 8 to 4.

Background

- 1998 studied port options in Pacific North West and determined that Port of Portland was best option.
- Portland option included partial relocation and consolidation of existing facility.
- Working with Port of Portland and local government, Toyota agreed to several advanced environmental features to be designed into the facility.



A large industrial factory floor with workers and vehicles. The scene is brightly lit with overhead fluorescent lights. In the foreground, there are blue metal frames and a red hydraulic lift. In the background, several vehicles are being assembled on a production line. Workers in blue and white uniforms are visible throughout the facility.

Background

- TLS Portland receives approximately 144 vessels per year.
- Process 250,000 vehicles annually, including limited North American production.
- Add 350,000 accessories per year to the vehicles.
- Distribute vehicles to dealers in 31 states.
- Employs 200 production associates and 25 salaried associates.

Environmental Features

- Riverbank restoration of 1800 linear feet with a total of 7 acres.
- LEED Gold certified building.
- Industry leading recycling rate of 95%.

Riverbank Restoration

- Request from local government for an impactful environmental project.
- Biggest issue was rainwater management.
- Other alternatives considered:
 - Green Roof
 - Permeable asphalt



Riverbank Restoration



- Selected river bank restoration because:
 - Best solution for rainwater management.
 - Benefited salmon habit restoration.
 - Tied in with city of Portland's river renaissance initiative.
 - Could help keep facility in compliance with future regulatory initiatives.

Riverbank Restoration

- Design concept

- Change riverbank from 2:1 grade with riprap to 7:1 grade with native plantings.
- Include manmade debris piles to provide shelter for juvenile salmon.
- Integrate bio-swales into riverbank to provide for natural filtering, and cooling of rainwater runoff prior to entering the river.



LEED

- Leadership in Environmental and Energy Design.
- Decided to pursue LEED certification for the site.
 - Toyota had previous experience with LEED at South Campus facility in Torrance California.
- One of first industrial sites to pursue LEED in the US.



The U.S. Green Building Council is a national nonprofit organization that developed the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System.

Toyota Logistics Services Portland Port Facility received Gold Certification from the U.S. Green Building Council in recognition of the environmental accomplishments for the design and construction of the Port Facility buildings.



LEED

- Five areas concentrated on in the design process in pursuit of LEED certification.
 - Sustainable site
 - Water efficiency
 - Energy & Atmosphere
 - Materials & Resources
 - Indoor environmental quality

Sustainable Site

- Primarily accomplished through the riverbank restoration project.
- Energy Star reflective roofs.
- Parking design and management practices to encourage car pooling and use of mass transportation

CAR POOL



Water Efficiency

- All planting on site are indigenous Oregon plants that will require no permanent irrigation.
- Potable water usage reduced by 75% through rainwater harvesting and low flow faucets.
- Refined car washing process to eliminate unneeded washing of vehicles.

Energy and Atmosphere

- Toyota purchases 100% Clean Wind energy to power the site.
- Installed occupancy sensors, skylights, and energy-efficient lighting resulting in reduction of electricity use by 33%.
- Energy efficient glazing and insulation reduces heat gain.
- Exhaust heat recovery system tempers incoming air with warm air exhaust resulting in estimated \$20,000 in heat cost savings.
- HCFC refrigerants were eliminated from all building systems.

Materials & Resources



- Railroad track constructed from previously used material.
- 43% of new building materials manufactured within 500 mile radius of the port.
- 57% of raw materials sourced within 500 miles of the port.
- 75% of all materials used contained recycled content.
- 99% of the construction waste was diverted from landfills.

Indoor Environmental Quality

- All ductwork and HVAC systems were sealed to prevent dust from entering during construction.
- Construction housekeeping was increased.
- Ceiling tile and carpet were not installed until building was watertight.
- All specifications called for low VOC adhesives, sealants, paints, and carpets.
- Operable windows were installed.
- 90% of work areas have outdoor views.



LEED

- Goal was LEED Certification (lowest level), facility achieved LEED Gold certification.
- Achieving LEED was cost neutral.

- Construction budget was set based on business case presented without LEED.
- Subsequent design and construction decisions made with sustainability as one of the filters in the decision.
- LEED was not the driving force in the design but one of the objectives along with normal design.



A photograph of a grey recycling cart on a concrete floor. The cart has several blue bins attached to it. On the top shelf, there are several white cardboard boxes and two brown cardboard boxes. The bins are labeled: 'PAPER ONLY' (top right), 'FOAM SHRE...' (middle left), and 'METAL' (bottom center). The word 'Recycling' is overlaid in large yellow text across the top of the image.

Recycling

- TLS Portland has had an employee driven recycling program since 1988.
- Started as cardboard recycling.
- In 2000 recycling rate exceeded 90%.
- New facility designed to facilitate recycling.
- 2005 recycling rate in excess of 95%.
- In 2005 garbage was removed from facility only 7 times. Garbage is stored in 40 yard roll off container.

Why Be Green?

- Makes Business Sense.
- Makes Sense for the Community.
- Right thing to do for the company, and the community.

Questions?

