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 Northwest 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.
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.
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
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.
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?