

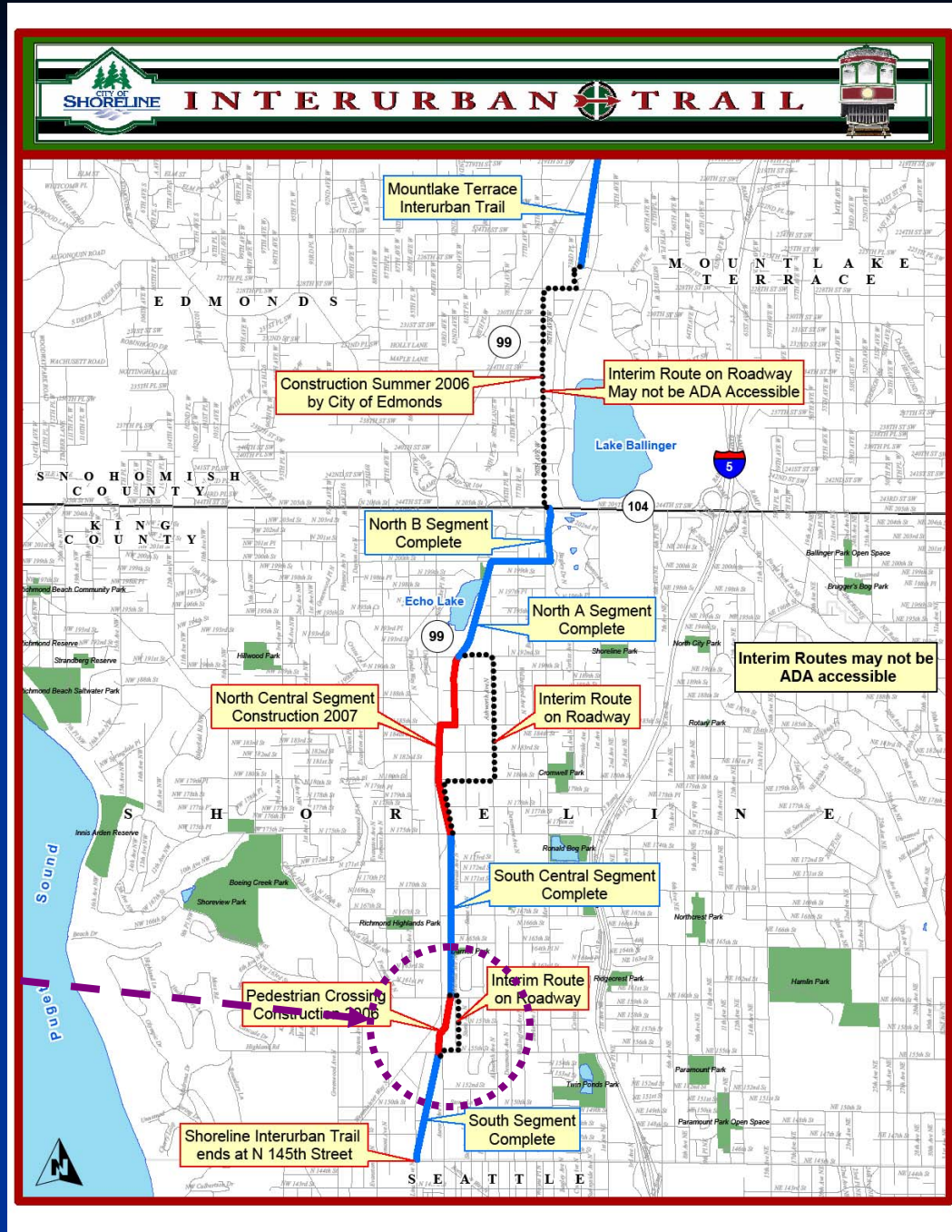
Interurban Pedestrian Bridges, City of Shoreline

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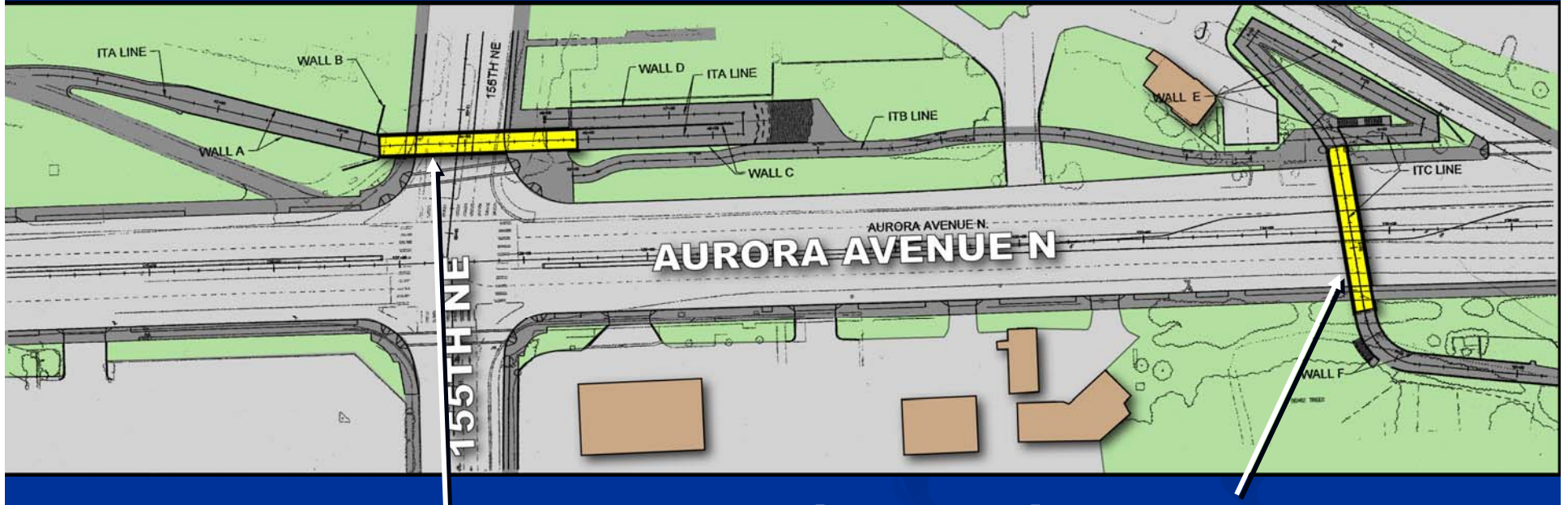


Interurban Trail

- Bike and pedestrian corridor through City of Shoreline
- Former Interurban Rail Line from Seattle to Everett
- Crossing at Aurora Avenue (SR99) only uncompleted link



Overview of Project



North 155th St Pedestrian Bridge

Aurora Avenue Pedestrian Bridge

- 130' Single Spans
- 17'-8" Vertical Clearance
- Need 8' High Barriers over State Route

Project Goals

- Provide a safe crossing over Aurora Avenue
- Create a “landmark structure”
- Create a sense of identity •

Challenges

- Mostly non-technical
- Limited budget available
- How to achieve – what is process?
- Getting consensus
- Managing diverse project team

Design Process

Team

Input

Artist
Architect
Engineer
Owner

Conceptual
Design

Art Jury

Preliminary
Design (30%)

Art Jury,
Community

Final
Design

Art Jury, City
Departments

Ad/Award

Contractor
Subcontractors

Construction

◆ Preferred Alternative

Alternatives Considered

- Steel Truss Bridge
- Steel Tied Arch Bridge
- Concrete Girder Bridge

Steel Truss Bridge



Steel Tied Arch Bridge



Concrete Girder Bridge

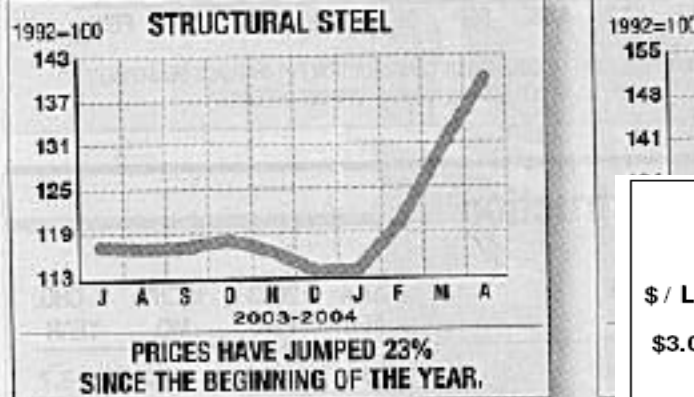


Concrete Girder Bridge

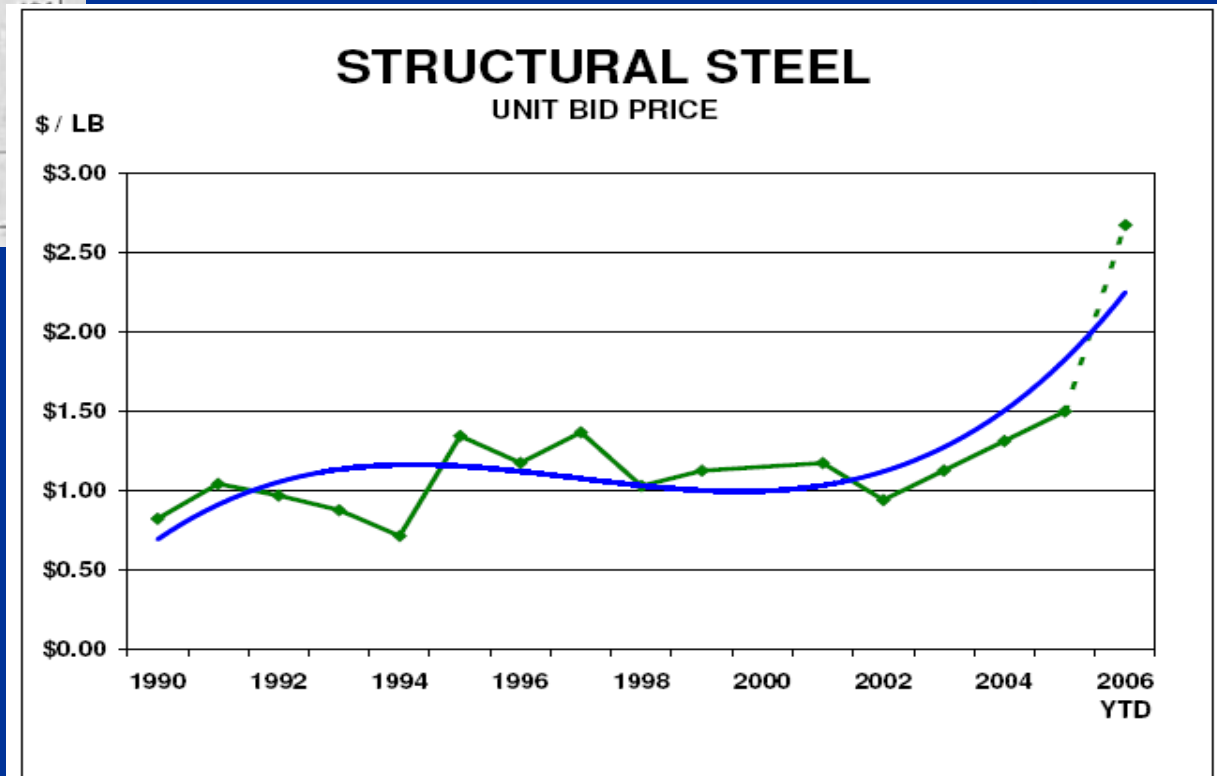


Rising Cost of Structural Steel

ENR's Materials Price Indexes



24 ■ ENR ■ April 26, 2004



Preferred Alternative

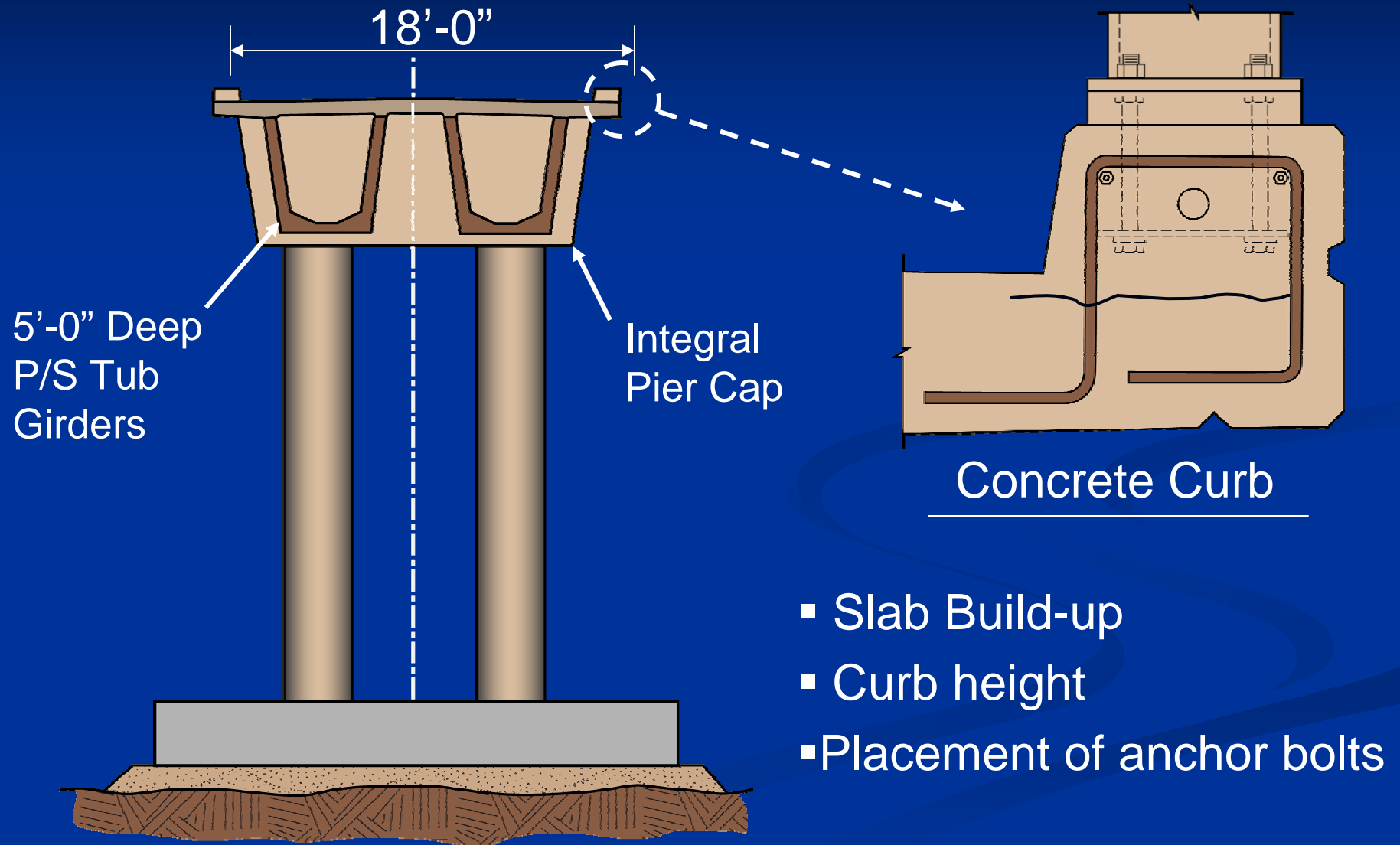


Advantages:

- **Least Expensive Structure**
- **Option to Build Bridge w/out Barrier**



Bridge Cross Section



Aurora Avenue Pedestrian Bridge



Architectural Barriers

155th Avenue Pedestrian Bridge



Barrier Framing



Typical 6'-0" Bay

- Clear Glass "Windows"
- SST Rod Connections

Erection of Barriers

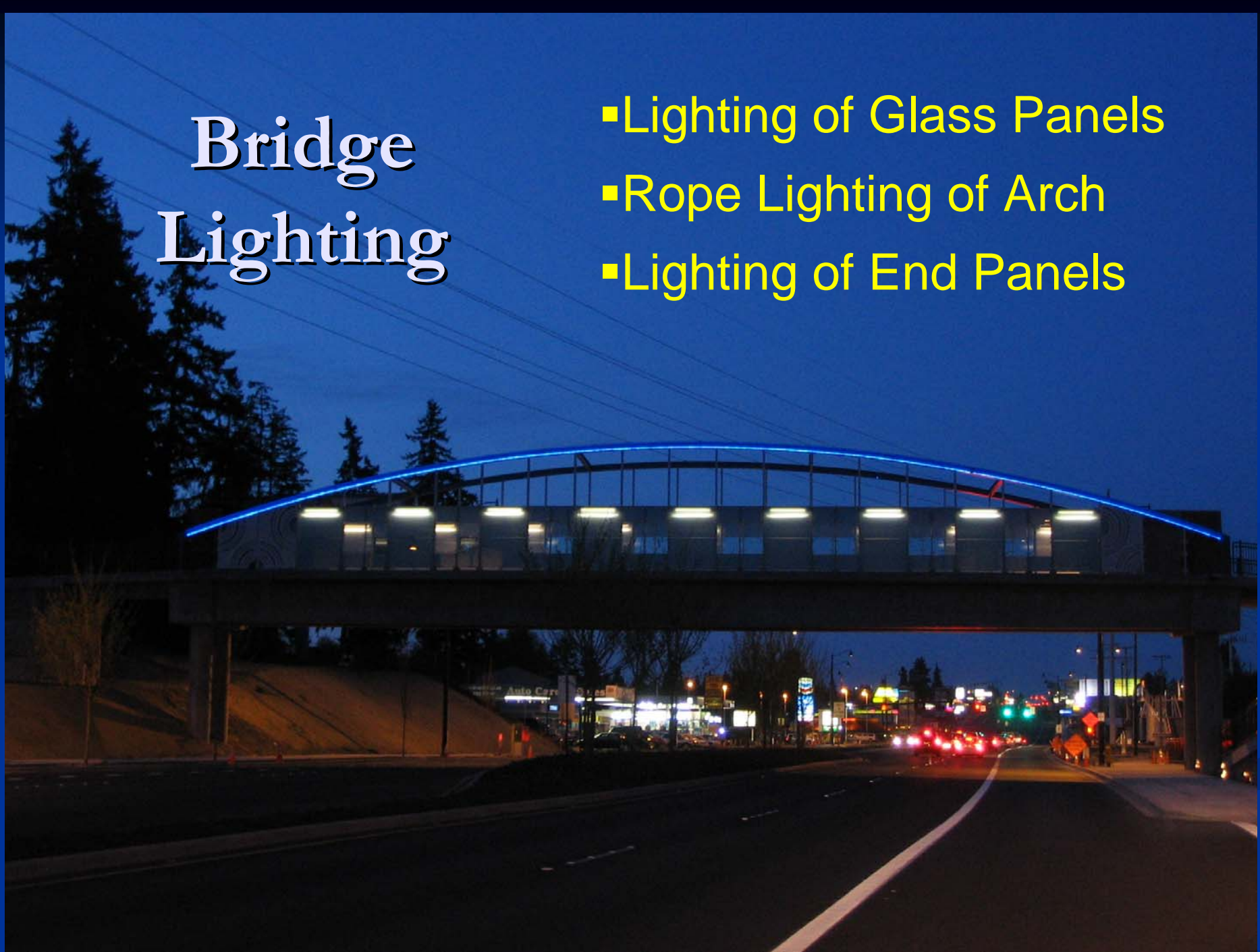


- Erected in 3 pieces
- Attachment to curb
- Installation of Glass



Bridge Lighting

- Lighting of Glass Panels
- Rope Lighting of Arch
- Lighting of End Panels



Bidding Strategy

- Barriers were bid as “Additive Alternates”
- Base Bid = Bridges + Fence/Guardrail
- Additive Alternate = Architectural Barriers
- Owner could select either:
Base Bid **or** Base Bid + Additive Alternate

MSE Walls

- Conceptual Design of Panel Art
 - Sample Mold •
- } Art Jury
- Award of Contract
- Prototyping Panels (Owner) •
 - Produce Master Molds (Artist, Liner Fab)
 - Mock-up Panels (Contractor's Wall Mfr) •
 - Production of Liner (Liner Fabric)
 - Production of Panels (Contractor!)
 - Wall Erection •
- ~ 4 Months
-

Summary of Wall Manufacturing

- Owner selected formliner product and formliner fabricator
- A lot of parties to coordinate
- Time-consuming process to approve formliner
- Critical to define roles and responsibilities of all parties in contract documents

Construction Costs

Bridges

- Base Cost - \$1.2M (\$260/SF)
- Cost with Barriers - \$2.3M

MSE Walls

- Cost \$890k (\$42/SF)

Acknowledgments

- City of Shoreline - Owner
- Bridge Architect – David Clinkston,
Clinkston-Brunner Architects
- Artist Vicki Scuri – Vicki Scuri Siteworks
- General Contractor – Gary Merlino
- Steel Fabricator – Haskell Corporation

Reference Slides









DEC 7 2005



