Fort Washington Way, A Major Interstate Highway Realignment, 15 years later

OTEC – 2015
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Session 37
Project Success Stories
Organizer: Katie Ott Zehnder
Moderator: Katie Ott Zehnder
Room: C210-212

Speakers:
Andy Fluegemann, Ohio DOT, District 8, Lebanon
Fred Craig, Cincinnati, OH
John Deatrick, City of Cincinnati

Photos:
City of Cincinnati
FORT WASHINGTON WAY 2000

A project managed by the City of Cincinnati with the cooperation of thousands

March 1999
November 1999
August 2000
FORT WASHINGTON WAY 2000

Project Overview

Agenda

• Review project goals and summary of execution
• Project overview and funding strategy
• Defining features of the execution and why they were employed
• Lessons learned and big picture results by project goals
• The asset management results
• Awards
• Q&A
FORT WASHINGTON WAY 2000
Project Overview

PROJECT GOALS

• Provide safer through and local network roadway for motorists and pedestrians
• Improve local and regional access and re-connect downtown with riverfront
• Achieve a high level of maintainable aesthetic quality
• Provide economic development opportunities by reclaiming highway rights of way
FORT WASHINGTON WAY 2000
Project Overview

PROJECT EXECUTION

• Pushed freeway down into a trench
• Pushed interchanges out to the ends of the trench to recapture r/w and establish lane continuity to reduce weaves
• Extended CBD streetgrid into riverfront over the freeway
• Bracketed the freeway with a collector-distributor above the 500 year flood level
• Built a below grade transit center to provide rail and bus connection across the riverfront
• Enabled new fiber backbone, water transmission main, and CSO mitigation
FORT WASHINGTON WAY 2000
Project Overview

PROJECT PARTNERS & FINANCIAL SUPPORT
TOTAL COST: $339 MILLION

City of Cincinnati: $94,806,226

Hamilton County: $21,322,742

Ohio Department of Transportation: $181,500,991*

Kentucky Transportation Cabinet: $13,879,576*

Federal Highway Administration: $12,608,568*

Ohio-Kentucky-Indiana Regional Council of Governments: $14,500,000*

Metro: $2,022,010*
FORT WASHINGTON WAY 2000

Project Overview

• An LPA project prior to the LPA process
• The City managed the project which reconstructed/relocated mainline of Interstate System, now not possible
• Local project team worked with OKI, ODOT, KYTC, SORTA, and TANK to form a regional partnership
• PB provided services from MIS/environmental through design and with an unique blending of City and PB personnel, construction management, now not possible
• ODOT and FHWA dedicated personnel to the project and agreed to aggressive plan review process including face to face meetings to deliver and resolve comments
• Urban design consultant worked with civil engineers to produce design manuals prior to contract plans being prepared
FORT WASHINGTON WAY 2000

Project Overview

PROJECT TIMELINE

November 1995

City of Cincinnati requests the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) to conduct a sub-corridor analysis for Fort Washington Way

January 1996

OKI begins Fort Washington Way sub-corridor analysis
FORT WASHINGTON WAY 2000

Project Overview

PROJECT TIMELINE (continued)

August 2000

Fort Washington Way completed and open to traffic

December 2000

Fort Washington Way dedication ceremony
Consultant Project Team:

• Consultant Parsons Brinckerhoff Project Management Consultants
• Contributing PB Offices: Cincinnati, Baltimore, Boston, San Francisco, Miami, Tampa, Las Vegas, Denver and Louisville

Other Team Members:

• Balke Engineers
• BRW
• Burgess & Niple
• Chan Krieger & Associates
• Dan Pinger Public Relations
• H. C. Nutting Company
• Hargreaves Associates
• Infrastructure Servcies
• JMA Consultants
• KZF Incorporated
• Resource International
• TEC Engineers
• U.S. Cost, Inc.
• Vivian Llambi & Associates
• Wallace Floyd Associates
• Wilson & Associates
DEFINING FEATURES

• Detailed Maintenance of Access Plan agreed during the environmental document

• Access maintained through phased and staged fast tracked construction, guided by detailed manuals pre-approved by ODOT and FHWA

• Procurement and contracting manual defined the LPA process

• Innovative materials including stone mastic asphalt driving surface

• Innovative bridge types
FORT WASHINGTON WAY 2000

Project Overview

DEFINING FEATURES (continued)

• Constructability and value engineering reviews

• Recaptured r/w for development and the transit center by replacing the flood levee with a flood wall and subsurface pump house

• Conventionally bid construction contracts with liquidated damages and no incentives

• Master schedule and traffic management defined early and included in project manuals bid documents

• Constructed foundations for future decking-over
FORT WASHINGTON WAY 2000
Design, Construction, and Project Coordination

THE FWW PROJECT:
• 31 design contracts
• 27 construction contracts
• Work broken down to fast-track design and construction and encourage smaller contractors and minorities to bid
• Phasing and fast-track allowed quick response to changing regional priorities
Innovative staged construction techniques used to maintain traffic while building bridges.
FORT WASHINGTON WAY 2000

Innovative Bridge Types

Firsts in Ohio:

• Steel Box Girder
• Cast-in-Place Box Girder
• Concrete Integral Piers
FORT WASHINGTON WAY 2000
Innovative Bridge Types

27 Bridges Built In 42 Stages

- 4 Steel Rolled Beam
- 16 Steel Curved Plate Girder
- 5 Steel Box Girder
- 7 Cast-in-Place Post-Tensioned Concrete Slab
- 3 Cast-in-Place Post-Tensioned Concrete Box Girder
- 1 Pre-Stressed Concrete “I” girder
- 2 Pre-Stressed Concrete Adjacent Box Beams
- 4 Cable-Stay Pedestrian Bridges
Lessons Learned organized by project goals

- **Provide safer through and local network roadways for motorists and pedestrians**
  - **Safer interstate highway**
    - Pushed the interchanges out to the ends of FWW feeding a collector/distributor/boulevard, removing partial interchanges into the CBD, producing lane continuity on I-71 & I-50 and reducing weaves on the freeway
    - Replacing and widening the 3rd St viaduct allowed for a safer and more efficient interchange with I-471 and a dedicated exit to Third St.
  - **Improve pedestrian safety**
    - Standard City sidewalks and signalized crosswalks extended into the Central Riverfront
    - Pedestrians no longer cross interstate ramps using uncontrolled crosswalks or elevated walkways into private buildings
FORT WASHINGTON WAY 2000 in 2015

Lessons Learned organized by project goals
• *Improve local and regional access and re-connect downtown with riverfront*
  o The City streetgrid has been successfully been extended into the central riverfront and connected to Interstate System with a collector-distributor
  o Access greatly improved to two local bridges into Kentucky, funded with federal funds allocated by KYTC
  o Additional lanes on WB FWW allow for storage for vehicles crossing Brent Spence Bridge during evening rush hours
  o Additional lanes on EB FWW and new Third Street Viaduct allow for safer split between I-471/US-50 and the I-71 NB traffic
  o People still complain about access to I-75/71 South is from right lanes of FWW and I-71 N is from right lanes of FWW which feels backwards to them
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

• **Achieve a high level of maintainable aesthetic quality**
  o Public improvements including FWW controlled by a 3-D master plan that coordinated stadia, transportation facilities and all classifications of roadways, utilities, development and parks.
  o Its implementation resulted in a APA National Planning Excellence Award for Plan Implementation

• **Provide economic development opportunities by reclaiming highway rights of way**
  o After 200 years, the City finally has a flood-resilient central riverfront development on recaptured interstate right-of-way and flood plain
  o The new Smale Riverfront Park built as planned in the master plan through a strong partnership built with the US Army Corps of Engineers, ODOT and OKI
FORT WASHINGTON WAY 2000 in 2015
Additional Lessons Learned regarding R/W

- Right of way and property – think comprehensively and in three-dimensions if you are working in a flood plain
  - Another close out process that gets overlooked.
  - Must dedicate new right of way, record easements and property plats
  - FWW subdivision just got recorded in 2014
  - Must have dedicated resources and staff to complete this task

The bridge with a very complicated r/w and legal lineage
FORT WASHINGTON WAY 2000 in 2015

LESSONS LEARNED – Think three-dimensionally, think development
The Banks, a project driven by R/W and property concepts
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

How have the innovative bridge types, pavement, and aesthetic treatments weathered the test of time?

• Pavement condition:
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

How have the innovative bridge types, pavement, and aesthetic treatments weathered the test of time? Apparently well.

- Bridge condition:
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

How have the innovative bridge types, pavement, and aesthetic treatments weathered the test of time?

- Lighting:

  Each light pole has 3 luminaires,
  - One over freeway that the City maintains at ODOT expense, performing well
  - Two lighting sidewalk and street and decorative lighting on cable stay bridges and trench parapet walls, performing well, but extra lighting maintained by City with no additional budget allocation
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

How have the innovative bridge types, pavement, and aesthetic treatments weathered the test of time?

- Flood wall pump house:
  - Maintained by Greater Cincinnati Metropolitan Sewer District at ODOT’s expense. Sump pump system is impossible to test.

- Third Street CSO Tunnel
  - Maintained by Greater Cincinnati Metropolitan Sewer District at City expense. Functioning well despite early predictions of trapping sediment and debris.
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

Riverfront Transit Center
• Riverfront Transit Center opened with the Billy Graham Crusade hosted in Paul Brown Stadium and primary usage has still been special events
• Nearby connections are available with stairs and elevators from both Second and Third Streets allowing easy transfer from both TANK and METRO and in late 2016 with Cincinnati Streetcar
• Through partnership with Parks, now has a bike center
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

• Riverfront Transit Center and public transportation
FORT WASHINGTON WAY 2000 in 2015
Lessons Learned organized by project goals

- Streetcar used the thickened bridge decks meant for light rail and connected to the transit center
Finding and managing the finances

- Funding used 25 funding sources, all with different conditions
- Ranging from $300,000 to $80M, totaling $339M
- At the end of the day, all accounts were closed out and the city had $100,000 (.03%) positive balance.
- Close out difficult because people move on to other projects, need dedicated commitment
- City/PB settled the SEJ lawsuit Jan, 2008, last piece of the puzzle.
FORT WASHINGTON WAY 2000

Awards

- **ACEC** - American Council of Engineering Companies of Ohio - 2002 Engineering Excellence Award
- **CMAA** - Construction Management Association of America - 2001 Construction Management Project Achievement Award
- **ARTBA** - American Road & Transportation Builders Association - 2000 PRIDE in Transportation Construction Award
- **ASCE Ohio OCEA** - American Society of Civil Engineers - Ohio - 2001 Outstanding Civil Engineering Achievement Award
- **Parsons Brinckerhoff** - Project of the Year 2001
- **SEGD** - 2001 Award Outstanding Project from Society of Environmental Graphic Design
- **Crystal Award** for Fort Washington Way “Connection to the Future” Video
- **ICMA** - 2001 International City Council Management Association of America Award
- **IRF** - 2001 IRF Global Road Achievement Award - International Road Federation - Honorable mention
APA 2013 National Planning Excellence Award for Implementation