• What is PBPD at ODOT
• Traditional versus our PBPD
• What PBPD is NOT
• ODOT PBPD Implementation
• Examples of PBPD
PBPD AT ODOT
PBPD - WHAT IS IT

- Performance Based Project Development

- Practical Design is design centric
  - We have done Practical Design for many years
    - it’s called Design Exceptions
PBPD - WHAT IS IT

- Performance Based Project Development

- Project Development is more encompassing and applies “practical” principals to other parts of project development - most notably the P&N, Project Scope & our Alternatives Study.
Goal of our PBPD is to right size project to fix what is broken - not try to make the “perfect” project.

“Perfect is the enemy of good” – Voltaire
Right size project at the start through the P&N and Scope rather than just try to cut at the end via Design Exceptions.
PBPD - WHAT IS IT

- Bottom Line.... It is better to build many “good” projects rather than just a couple of “perfect” projects.

(or no project at all because we can’t afford it)
PBPD - WHAT IS IT

- PBPD is officially recognized in Ohio

**NEW** L&D Volume 1 – Section 1000

### 1000 Performance Based Project Development (PBPD)

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# TRADITIONAL VS. PBPD

<table>
<thead>
<tr>
<th>Traditional</th>
<th>PBPD</th>
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<tbody>
<tr>
<td><strong>Project Scope</strong> - Fix everything to standard</td>
<td>Fix what is broken</td>
</tr>
<tr>
<td><strong>Measure of Success</strong> - meet standards (i.e., design exceptions are bad or represent a design failure)</td>
<td>Design Exceptions are NOT inherently bad. They just document a thoughtful decision.</td>
</tr>
<tr>
<td><strong>Measure of Success</strong> - meet all of the standards (LOS, Cross Section, etc.)</td>
<td>Compare improvements to the existing - not just “the standard”. <strong>Design Up</strong></td>
</tr>
<tr>
<td><strong>Context</strong> = Defined by the Standards. Type, size, footprint of road defined by standards.</td>
<td>Can consider the surroundings (the actual “context”)</td>
</tr>
<tr>
<td><strong>Safety</strong> = Defined by meeting Standard</td>
<td>Use HSM to measure/predict safety performance of decisions</td>
</tr>
<tr>
<td><strong>Funding</strong> - Design it to Standard and wait for god knows how long to build it when the money is available</td>
<td>It’s better to make an affordable &amp; substantive improvement <strong>NOW</strong></td>
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</tbody>
</table>
WHAT PBPD IS NOT
WHAT PBPD IS NOT
WHAT PBPD IS NOT

○ From the video:
  ○ *It meets standards - therefore it is safe*;
  ○ HSM may be able quantify
  ○ No consideration of context;
  ○ Are the “standards” creating reasonable (practical) impacts?
WHAT PBPD IS NOT

PBPD is NOT:
- Total disregard of the Standards.
- Always violating standards because it’s cheaper:
  - What are the safety ramifications (existing crashes and predicted future)?
  - What impacts do we avoid (B/C)?
  - Are we still meeting the P&N?
  - Do the standards fit the context?
PBPD - WHAT IS IT

- Right Size Project - P&N, Scope, Alternative Study
- Right Size Impacts - Design Exceptions
Purpose & Need
- Primary or Secondary Need
- Scope
PBPD IMPLEMENTATION

Purpose & Need (Coming Soon)
- Primary or Secondary Need
- Scope

○ P&N: Focus on Fixing What is Broken*
  ○ Primary Need - Must address

  ○ Secondary Need - Fix based on impacts and costs
    (Decision made during Feasibility)

* Broken = Safety, Operational or System Condition Problems. It isn’t necessarily broken if doesn’t meet “standard”
Feasibility Study
• Deciding What is Practical
• What 2ndary Needs to Address
PBPD IMPLEMENTATION

- The ODOT PDP & PBPD Opportunities

ODOT’s Project Development Process

- Planning (PL)
- Preliminary Engineering (PE)
- Environmental Engineering (EE)
- Final Engineering / ROW (FE)
- Construction (CO)

Design
  - Design Exceptions
PBPD IMPLEMENTATION

Design Exceptions

- New Electronic Format
- HSM used depending on situation to quantify safety ramifications
The Design Exception Information

The HSM Expected Crash Ramifications

PBPD = Balanced Decision
Safety, Impacts, Costs, Benefits: Is it worth it or not
FRA-70

Considerations:
- HCS, HSM, Truck Tracking, Drainage

Punch Through
Requires 11’ Lanes

Narrow Shoulders

Provide Widest
Shoulders Where
Possible
MOT-35

Considerations:

- HCS/Operations

Preferred Alt (SPUI)

PBPD Alt (Tx Diamond)

PBPD – Is it good enough??
Considerations:

- HCS/Operations

Preferred Alt: Grade Separations = $120M

PBPD Alt: Superstreets = $15M

Available Construction Funding = $0.0

Superstreets far superior to existing but not as good as interchanges

Is it better to make a “lesser” improvement now or keep waiting for $$??
HAM 75/275

Considerations

- HCS, Simulation

Daily Multi-Mile Stopped SB Queues due to one lane exit

Ideal Solution is Flyover Ramp ($30M)

PBPD Solution $1.5M BUT may degrade some other areas of interchange

Is a fundable “lesser” solution better than Do Nothing??
HAM-75

- Considerations
  - HCS, Pavement/Bridge Conditions

As proposed = $38M
PBPD = $12M

Savings
Profile *(Salvage Pavement)*
Surface street Mod’s
Interchange design
**FRA 70**

- **Considerations**
  - Universe of deficiencies requires $180M fix
  - Is there an affordable fix that can make significant improvement?
SUMMARY

- Meeting Standards is a worthwhile goal **WHEN** it makes sense;

- *An improvement is far better than doing nothing;*
Finally (and most important) - PBPD must be a balanced decision:
  - Cost
  - Impacts
  - Safety
  - Context
  - Is it an improvement (even if not full “standard”)

i.e. - the comparative “Performance”
SUMMARY

Practical Decision

Context, Safety, Impacts, Scope, Meeting Standards, Costs
SUMMARY

- PBPD Challenges:
  - Practical to you may be different than to me;
  - Long time design/scope paradigm to overcome;
  - PBPD is NOT Black & White (like looking up a design standard is);
And for those thinking about liability...

“We do not subscribe to the idea that new construction design standards must be met or we do nothing. We firmly believe that improvements, within the existing Right of Way, and within current funds, that may not quite meet design standards, are a definite safety enhancement and serves the motorists. We must recognize that we live in a highly litigious society and accept the fact that tort liability is part of our business. We must not allow our operations to be petrified into no activity by the specter of tort liability. Responsible actions based on reasonable conclusions are defensible.” – Bernie Hurst, Former ODOT Director, Address to the 1989 AASHTO Highway Subcommittee Annual Meeting
QUESTIONS

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