Communicating the Safety Benefits of Alternative Intersections

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The most Common Design

- The Majority of Intersections will still have “Traditional” or common designs. accommodate 3 and 4 road approaches.
- In most cases they provide reasonable levels of service and safety.
- Most Traditional Intersections operate well...
- Most of the time.
Are All of our Intersections Bad?

- Congestion, Crash Risks and/or Unusual Geometry can alone (or together) cause poor intersection performance
- Pedestrians, Bike Riders and other non-motorized road users can be at risk.
- The Public can and will often call for a Fix!
Conflict Leads to Crashes

- Sometimes Traffic Demands cause driver confusion and conflicts.
A Traffic Light Will Fix It!

- So, just put up a Traffic Signal!
  - Traffic Lights move traffic efficiently
  - And they *Always* make the crashes go away...Right?
  - Crashes at Intersections make up about 1/3 of all Severe Crashes in Indiana
Give Us an.... Interchange?

- So that means that we need an Interchange....Right!
The Public wants to know what’s so wrong with traditional 3 and 4 leg intersections?

- If it Ain’t Broke – Don’t Fix it!
- Why do we need these Merry-go-Round things? Someone’s going to get hurt!
- Not In My Town – City – County!
- Don’t you know that Change Is Bad!!
Alternative Intersections - Why?

NOT SURE IF I'M IN THE CORRECT LANE...

OR IF I'M EVEN ON THE ROAD AT ALL.
Intersection Decision Guide

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What Does the IDG Produce?

- Greater awareness of alternative/innovative intersections – their characteristics & applications
- More extensive statewide use of alternative forms
- Better choices in selection of intersection improvements and new intersection designs
- More cost-effective intersection investments toward improving traffic safety and congestion
- Agreement on an agency decision-making process for this purpose, as a matter of policy
Makeup of Intersection Decision Guide

- Targeted Users: moderately advanced understanding
- Model centered on 2 stage decision trees
- Handles small and large intersection treatments
  - 9 chapters + 4 appendices
  - Explicitly lists 9 intersection forms, with flexibility to handle others
    - Includes at-grade junctions of interchanges
- Your Decisions are Documented in the *Intersection Decision Guide*
Decision Trees

Stage 1: Initial, Feasibility Screening

- Conventional intersection (signalized or unsignalized)
- Medial U-turn intersection (Michigan Left, J-turn, Roundabout)
- Roundabout intersection
- Center left turn intersection (continuous flow)
- High-volume intersection (median or barrier)
- Offset "T" intersection
- Green "T" intersection (right turn)
- Quadrant roundabout intersection
- Grade separation (overpass)
- Other intersection alternative

A Screening Questions

Q1: Is it feasible and reasonable given site-specific and geometric characteristics, including horizontal constraints, observations at the junction (3 vs. 4 legs, and presence or absence of median and others)?

Q2: Is there a realistic expectation it will address the core problem, as it relates to traffic safety or mobility, and does it do so in a manner to influence the scale of the project?

Q3: Does it likely improve or preserve existing state of performance related to traffic safety (for all modes including pedestrians, the presence of essential impact, be it mobility or safety)?

Q4: Is it feasible and reasonable with respect to all other factors?

- Initial (field & engineering costs)
- Stakes/communities
- Project development time
- Continuity, uniformity
- Environmental impacts
- Utility impacts
- Administrative factors

Q5: Is it feasible and reasonable based on qualitative and quantitative performance assessment (Q1) to Q4, in relation to essential project intent?

Feasible or Infeasible Determination

Stage 2: Secondary, Expanded Performance Assessment

Feasible Alternative

- Conventional intersection (signalized or unsignalized)
- Medial U-turn intersection (Michigan Left, J-turn, Roundabout)
- Roundabout intersection
- Center left turn intersection (continuous flow)
- High-volume intersection (median or barrier)
- Offset "T" intersection
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- Quadrant roundabout intersection
- Grade separation (overpass)
- Other intersection alternative

4 Performance Questions

Q1: How well does the alternative perform relative to traffic safety? (indicators)

Q2: How well does the alternative perform relative to traffic mobility? (indicators)

Q3: How effective is the alternative value in terms of service performance vs. cost?

Q4: How efficient is the alternative regarding other performance measures:
- Initial (field & engineering costs)
- Stakeholder, community
- Project development time
- Continuity, uniformity
- Environmental impacts
- Utility impacts
- Administrative factors

Record of Performance

- Qualitative vs. quantitative performance assessment (Q1) to Q4 (vs. essential project intent)

Comparison & Selection

- Select best alternative based on quantitative performance assessment (Q1) to Q4 in relation to essential project intent
Other Information Tools

- There are numerous Videos that can be used to help educate the public on the Concepts that you want to impart.
Median U-Turn Intersections

- **Boulevard Left or Michigan Left**
  - FHWA Video: [https://www.youtube.com/watch?v=fshW_O_Xggl](https://www.youtube.com/watch?v=fshW_O_Xggl)
R-Cuts and J-Turns

- Restricted Crossing U-Turn intersection types:
  - https://www.youtube.com/watch?v=BLwl01NCp9I
  - https://www.youtube.com/watch?v=nPcMeh0gDC0
Median U-Turn Intersection

- R-Cut or Superstreet Intersection
Displaced Left Turn

- [Video Link](https://www.youtube.com/watch?v=3wlv0a9fuB0)
Continuous Green T

- Also known as the Florida T
Roundabout Intersection

- FHWA Video: 10:52 minutes
- https://www.youtube.com/watch?v=ns2k71K46g8
What if Opposition Remains?

- Accept that there will likely be opposition no matter what you say.
  - Be a Sympathetic Listener
  - Help them get their comments recorded
  - Be open to their concerns and new ideas
  - There is nothing like success to change minds!