Maintenance of Traffic
Vehicular and Pedestrian

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Vehicular MOT

When to use Vehicular MOT?

City of Indianapolis Transportation Standards:

Traffic control for construction and maintenance activities in, on, under and over the public right-of-way shall conform to and be in accordance with the Indiana Manual of Uniform Traffic Control Devices, latest edition, and all other applicable state and federal laws.

Source: Indianapolis Transportation Section Standards Manual, Chapter 200.02
Vehicular MOT

When to use Vehicular MOT?

IMUTCD Guidance:

Road user and worker safety and accessibility in TTC zones should be an integral and high-priority element of every project from planning through design and construction.

Source: Indiana Manual on Uniform Traffic Control Devices (IMUTCD), Section 6B.01
Vehicular MOT

1. Signage
2. Detour routes
3. Special vehicles
4. Creative solutions
5. Lessons learned
1. Signage
   a. Traffic control devices per MUTCD
   b. Don't place signs in sidewalk or bike lane
2. Detour routes for full closure
   a. Policy: detour route should be on equal or higher classified roadway
   b. https://maps.indy.gov/PlanIndy/
   c. Detour needs to makes sense (one-way streets, turn restrictions, grade separation)
   d. Confirm a realistic closure duration before communicating it to the public.
Vehicular MOT
3. Special vehicles
   a. Business deliveries
   b. Solid waste vehicles
   c. School drop off / pick up
   d. IndyGo bus
   e. Emergency vehicles
Vehicular MOT

Creative Solution:
Temporary One-Way to Two-Way Conversion
Before & After
Vehicular MOT

Lesson Learned: Temporary signal timing adjustment?
Pedestrian MOT

1. When to Use
2. Pedestrian MOT Hierarchy
3. Minimum Requirements
4. Examples
5. How is Bicycle MOT Different?
The purpose of these guidelines is to ensure that pedestrian facilities located in the public right-of-way are readily accessible to and usable by pedestrians with disabilities. Despite on-going efforts to improve access, pedestrians with disabilities throughout the United States continue to face major challenges in public rights-of-way because many sidewalks, crosswalks, and other pedestrian facilities are inaccessible. Equal access to pedestrian facilities is of particular importance because pedestrian travel is the principal means of independent transportation for many persons with disabilities.

Key accessible features of pedestrian facilities specified in these guidelines include:

- **Pedestrian Access Routes**: Sidewalks, shared use paths and other pedestrian circulation paths must contain a “pedestrian access route,” which is required to be accessible to and traversable by individuals with disabilities. The portions of these sidewalks and paths that comprise the pedestrian access route must be wide enough to minimize the possibility of a

- **Crosswalks**: Curb ramps and detectable warning surfaces are required where a pedestrian circulation path meets a vehicular way. Crosswalks at multiline roundabouts and channelized turn lanes must have additional treatments that alert motorists to the presence of pedestrians or slow or stop traffic at those crosswalks.

- **Transit Stops**: Boarding and alighting areas at sidewalk or street level, as well as elevated boarding platforms, must be sized and situated such that a person with a disability can board and alight buses and rail cars. Pedestrian access routes must connect boarding and alighting areas and boarding platforms to other pedestrian facilities. Transit shelters must have clear space for use by a person in a wheelchair.

- **On-Street Parking**: On-street non-residential parking must have designated accessible parking spaces sized so that a person with a disability may exit a parked vehicle and maneuver to the sidewalk without entering a vehicular way. Standard size designated accessible on-street parking spaces must
Pedestrian MOT

When to use Ped/Bike MOT?

IMUTCD Standard:
(edited for length)

The needs of all road users, including persons with disabilities, shall be an essential part of highway construction.

“Too Bad” is not an MOT strategy

Source: Indiana Manual on Uniform Traffic Control Devices (IMUTCD), Section 6A.01
Pedestrian MOT

When to use Ped/Bike MOT?

• Impacting a sidewalk?
  – Need pedestrian MOT

• Impacting a bike facility?
  – Need bicycle MOT

• Impacting a multi-use trail?
  – Need pedestrian and bicycle MOT

• Evidence of pedestrian use?
  – Consider providing pedestrian MOT

• Transit stop – work with IndyGo
Pedestrian MOT

Pedestrian MOT Hierarchy

1. Diversion
   a. Right of Way side
   b. Street Side

2. Detour
   a. Short Detour
   b. Midblock Crossing
   c. Long Detour with Closure Time Restriction

3. Closure with Time Restriction
Pedestrian MOT

**STREET SIDE DIVERSION**

**ROW SIDE DIVERSION**

1. Temporary pedestrian access route width of 60 in. is preferred. A 48 in. width may be used if at least one 60 in. by 60 in. passing space is provided every 200 ft.

2. Temporary curb ramp that covers any rough, soft, or uneven ground, has a turning space of 48 in. by 48 in., an 8.00% or flatter running slope, a 2.00% or flatter cross slope, and a non-slip surface. Edge protection is required for curb heights > 4 in. and handrails are required for curb heights > 6 in.

3. Temporary pedestrian channelizer

4. Temporary accessible pedestrian path

**SIDEWALK DIVERSIONS**

Figure 503-3G

Source: Indiana Design Manual (INDOT)
Pedestrian MOT

Right of Way Side Diversion example
Pedestrian MOT

Right of Way Side Diversion example
Pedestrian MOT

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4. Temporary accessible pedestrian path

SIDEWALK DIVERSIONS

Figure 503-3G

Source: Indiana Design Manual (INDOT)
Pedestrian MOT

Street Side Diversion example

Source: 2023 Road School – INDOT Pedestrian Maintenance of Traffic for Designers Presentation
Pedestrian MOT

Street Side Diversion example

Source: Market Street Reconstruction, CHA Consulting
Pedestrian MOT

SIDEWALK CLOSED
R9-9

SIDEWALK CLOSED AHEAD CROSS HERE
R9-11

LEGEND
- Audible Information Device
- Type III Barricade
- Work Zone
- Construction

SIDEWALK DETOURS
Figure 503-3H
Source: Indiana Design Manual (INDOT)
Pedestrian MOT

Short Detours examples
Pedestrian MOT

Short Detour & Midblock Crossing example
Pedestrian MOT

Midblock Crossing example
Pedestrian MOT

Long Detour example
Pedestrian MOT

Detour?
Pedestrian MOT
Closure With Time Restrictions
Pedestrian MOT

Minimum Requirements

Standard:

When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Where pedestrians with visual disabilities normally use the closed sidewalk, a barrier that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.

- Temporary facilities must be detectable
  - Detectable barrier across full width of closed sidewalk
- Alternate Pedestrian Access Route
  - Use existing sidewalk = at least as good as closed route
  - New temp. elements or route = meet ADA standards
- Put a flasher on temp midblock crossings

Source: Indiana Manual on Uniform Traffic Control Devices (IMUTCD), Section 6D.02
Pedestrian MOT

Detectable barriers?
Pedestrian MOT

Detectable barriers?
Pedestrian MOT

Minimum Requirements

• **Temporary Accessible Pedestrian Paths**
  – Firm, stable, non-slip
  – Compacted aggregate, asphalt, concrete, or prefabricated
  – Minimum 4 ft wide

Source: Indiana Design Manual (INDOT), Chapter 503-7.07
Pedestrian MOT

Minimum Requirements

• **Temporary Curb Ramps**
  – 4 in. rise requires edge support
  – Over 6 in. rise requires handrail
  – Perpendicular or parallel

Source: Indiana Design Manual (INDOT), Chapter 503-7.07
Pedestrian MOT

Minimum Requirements

• **Temporary Pedestrian Channelizers**

**Standard:**

Devices used to channelize pedestrians shall be detectable to users of long canes and visible to persons having low vision.

Where channelizing devices are used to channelize pedestrians, there shall be continuous detectable bottom and top surfaces to be detectable to users of long canes. The bottom of the bottom surface shall be no higher than 2 inches above the ground. The top of the top surface shall be no lower than 32 inches above the ground.

Source: Indiana Design Manual (INDOT), Chapter 503-7.07
Pedestrian MOT

Minimum Requirements

• Temporary Pedestrian Channelizers
Pedestrian MOT

• What if there are no alternate routes?
  – If establishing or maintaining an alternate pedestrian route is not feasible during the project, an alternate means of providing for pedestrians may be used, such as adding free bus service around the project or assigning someone the responsibility to assist pedestrians with disabilities through the project limits.

Source: Indiana Manual on Uniform Traffic Control Devices (IMUTCD), Section 6D.01
Pedestrian MOT

146th Street & Allisonville Road

- Traditional Alternatives Not Feasible:
  - Temporary Bridge across White River
  - 6 or 7 mile Pedestrian Detour

- Solution…

Source: Hamilton County Highway Department
Pedestrian MOT

SR 38 Reconstruction in Dayton

- No Feasible Alternate Pedestrian Routes Available
- Solution…
Bicycle MOT

• Often the same as pedestrian MOT

• Differences:
  – Bicycle lane may be closed while sidewalk remains open, so only bicycle requires detour
  – Prefer to detour trail to trail or trail to neighborhood streets
  – Close trail & send to sidewalk, which is not a good route for cyclist
Vehicular & Pedestrian MOT

Questions?