Engineering Policy Group

Technical Bulletin

Number 2 / June, 2007

INCIDENT BY-PASS ROUTE (EM-10) Signing

Practical design encourages efficient solutions to solve current transportation needs. MoDOT has designated incident bypass routes to relieve traffic back-ups on our interstates from disturbances such as weather, accidents or spills. Incident bypass routes are designated routes traffic can use to bypass an incident that has occurred on an interstate. Interstate traffic can exit to another pre-determined route and return to the interstate and thus bypass the incident. Travelers avoiding an interstate incident can use the designated incident bypass route with or without emergency responders.

This technical bulletin provides speedy information so that the districts can determine where and how to install and use the new signs. The I-44 and I-70 corridor teams should work with their respective districts to have key installations complete prior to September 1, 2007. Districts should work to install signing for additional bypass routes as they are identified and needed.

Guidelines for Establishing Incident Bypass Routes

When determining which routes to designate as Incident Bypass Routes primary consideration should be given to using other MoDOT routes if possible. Incident Bypass Routes should be able to reasonably accommodate typical interstate traffic including associated commercial vehicles and volumes. Items to consider when choosing an Incident By-Pass Route include:

- Bridge limitations such as widths, heights and weight restrictions
- Curves and grades
- Intersection geometrics
- Maintenance and Priority 1 route for snow removal
- The ability to accommodate the interstate traffic for at least 24 hours.

When partnering with the emergency responders along an interstate, Incident Bypass Routes need to be discussed and decided by an Incident Management Team. The Incident Management Team should include MoDOT and our partner Law Enforcement, EMS, Fire Responders and any local government agencies in the effected area. If it is determined by the Incident Management Team that there is not a reasonable MoDOT route to sign as the Incident Bypass Route then a county road or a city street may be considered as an Incident Bypass Route. The county or city must agree that it is beneficial to sign the route as an Incident Bypass Route. In addition, the city or county must sign a Memorandum of Understanding (MOU) outlining the responsibilities of the local entity and MoDOT as they relate to maintenance, snow removal, and notification as well as any additional items that are necessary before MoDOT can sign the route as an Incident Bypass Route. As part of the agreement, MoDOT shall provide, install and maintain the incident bypass signing per our Engineering Policy Guidelines.

Many of the Incident Bypass Routes will be routes with reduced pavement substructure. When maintenance crews and/or contractors are working to maintain these routes, notification to the Incident Management Team will be necessary in order to plan a suitable detour around this work in the event that Emergency Responders need to engage the by-pass while maintenance is in progress. If a detour cannot be planned around this work, MoDOT or the local entity needs to inform the maintenance crews and/or the contractors that Emergency Responders are engaging the by-pass route and the maintenance crews and/or the contractors will need to remove any work zone on the route immediately so that traffic can flow without being stopped.

Typical Application of Incident Bypass Route Signing at Interstate Exits

Incident Bypass Routes are to be integrated into the district's Incident Response Plan. When it is necessary

for Emergency Responders to engage Incident Bypass Routes to detour traffic from an interstate, districts should also consider activating changeable message signs to advise motorists of the detour and any restrictions associated with the Incident Bypass Route such as “no over weight/over dimension loads”, etc.
Typical Application of Incident Bypass Route Signing at Interstate Exits

Incident bypass routes are only established on interstate routes. INCIDENT BY-PASS ROUTE (EM-10) signs shall not be placed where they will conflict with other signs. Where placement would cause conflict between the INCIDENT BY-PASS ROUTE sign and a standard regulatory sign, the regulatory sign shall take precedence.

Placement of INCIDENT BY-PASS ROUTE signs should be made only after coordination with the local Incident Management Team and an agreement between contiguous political entities and MoDOT has been established to assure continuity of routes.

The entire sign shall be retroreflective. If used in urban areas, the INCIDENT BY-PASS ROUTE sign shall be mounted at the right-hand side of the roadway, not less than 2.1 m (7 ft) above the top of the curb, and at least 0.3 m (1 ft) back from the face of the curb. If used in rural areas, it shall be not less than 2.1 m (7 ft) above the pavement and 1.8 to 3 m (6 to 10 ft) to the right side of the roadway edge.

When used with exit signing on the interstate, the INCIDENT BY-PASS ROUTE sign shall be attached below the ground mounted ADVANCE GUIDE (E1 series) sign itself, not the signposts. In addition, a second INCIDENT BY-PASS ROUTE sign shall be attached below the EXIT DIRECTION (E2 series) sign and the EXIT GORE (E5 series) sign on the interstate at the appropriate exit. Refer to Figure 1 for support. Any appended General Service sign panels shall be removed from the advance guide sign and replaced with an independently mounted General Service sign as described in EPG article 903.8.60, General Service

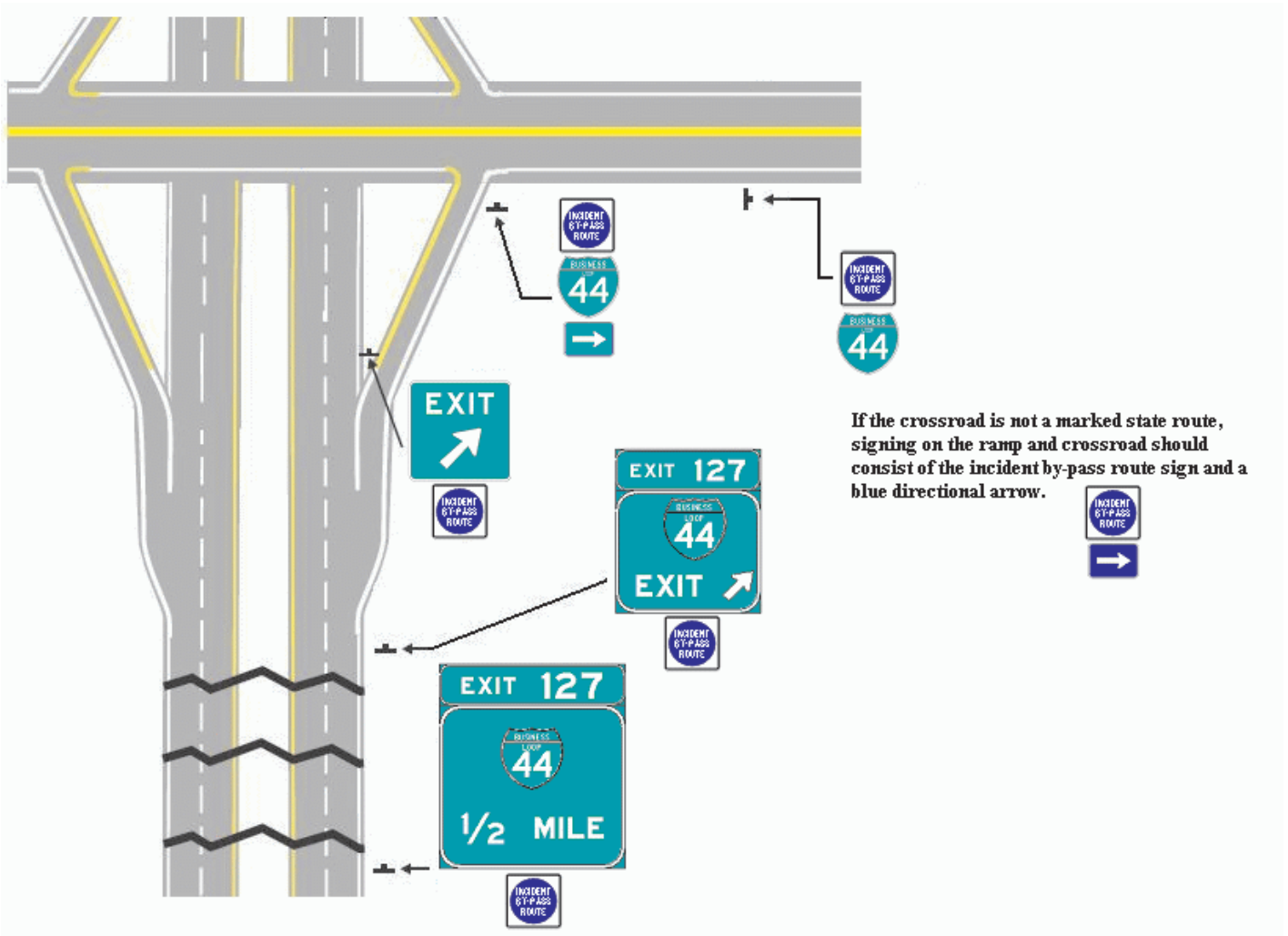

Fig 1, Typical Application of Incident Bypass Route Signing at Interstate Exits

Signs (MUTCD Section 2E.51). INCIDENT BY-PASS ROUTE signs shall not be installed below OVERHEAD ADVANCE GUIDE signs.

When INCIDENT BY-PASS ROUTE signs are needed at interchanges with OVER-HEAD ADVANCE GUIDE and EXIT DIRECTION signs, the INCIDENT BY-PASS ROUTE should be mounted above the ADVANCE GUIDE sign or EXIT DIRECTION sign and adjacent to the EXIT NUM-BER panel. See Figure 2 for support. In addition, an INCIDENT BY-PASS ROUTE sign shall still be installed underneath the EXIT GORE as in typical installations.

Fig 2, Typical Application of Incident Bypass Route Signing on Overhead Advance Guide Signs

Typical Application of Incident Bypass Route Signing for Trailblazing.

When used, incident bypass route signing will consist of exit signing off of the interstate and trailblazing along other routes for the entire length of the bypass. When used for trailblazing, the INCIDENT BY-PASS ROUTE sign shall be used either in conjunction with existing route marking or as a stand-alone assembly. When used as a stand-alone assembly, the assembly shall consist of an INCIDENT BY-PASS ROUTE sign (EM-10) and the appropriate directional/advanced directional arrow (M5/M6 Series).

The INCIDENT BY-PASS ROUTE sign shall be installed at any turn in an approved incident by-pass route including ramp terminals and junctions with other state routes. The INCIDENT BY-PASS ROUTE sign shall also be installed for straight-ahead confirmation where needed. See Figure 3 and 4 for support.

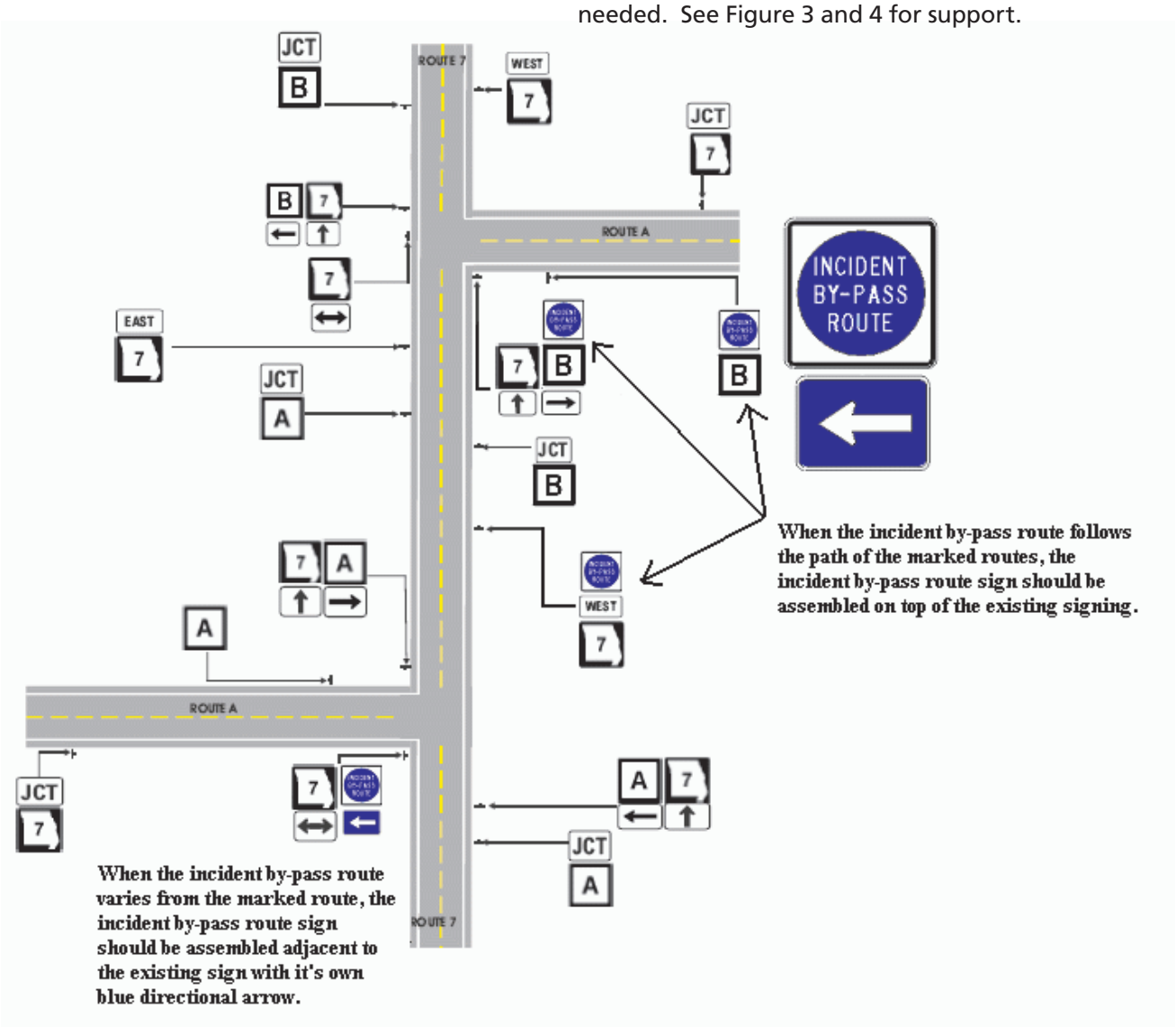

Fig. 3, Typical Application of Incident Bypass Route Signing for Trailblazing.

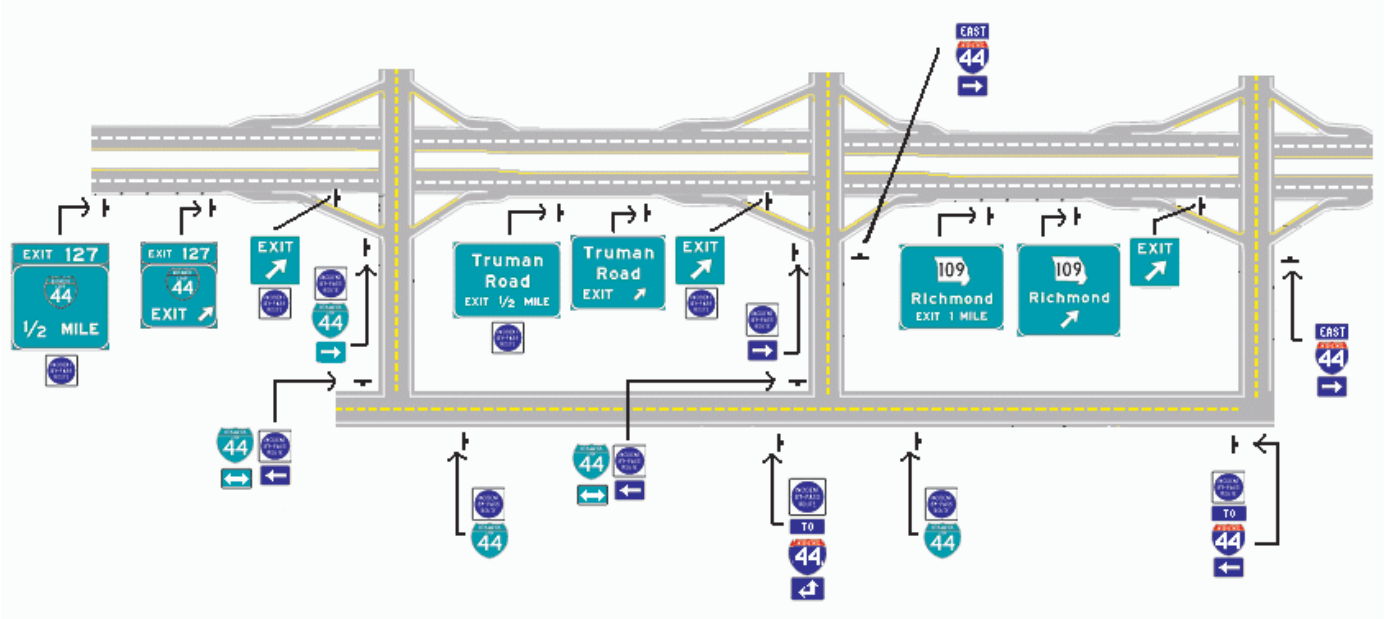

Fig. 4, Typical Application of Incident Bypass Route Signing in Locations with Multiple Interchanges

Interchanges

When the incident by-pass route follows the exact path of a marked state route, the INCIDENT BY-PASS ROUTE sign should be assembled with the existing signing above the appropriate route shield that the by-pass route is following. When the incident by-pass route varies from the path of a marked state route, the INCIDENT BY-PASS ROUTE sign should be assembled adjacent to the existing signing with it's own blue directional arrow. Figures 3 and 4 show examples of both instances.

Non-Standard Applications

In non-standard applications, additional signing may be added to the incident bypass route signing in order to give drivers additional information. These additional signs may include, but are not limited to, cardinal direction signs and interstate route shields.

Annual Checks

All incident bypass signing shall be included in annual field checks for placement, condition, etc. These annual checks shall include incident bypass signing on state and non-state routes to assure continuity and completion of the signing.