

## PAVEMENT DESIGN MEMORANDUM 17-02

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CC: Federal Highway Administration – Arizona Division

FROM: Reed Henry, Deputy State Roadway Engineer



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### Use of Portland Cement Concrete Pavement (PCCP) at Traffic Interchange (TI) Intersections

*(Supersedes Highways Division Policy and Implementation Memorandum No. 92-10)*

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#### Purpose

To provide selection criteria for the use of Portland Cement Concrete Pavement (PCCP) at TI ramp/crossroad and frontage road/crossroad intersections. The intent of this guidance is to ensure a pavement type selection that achieves the lowest life cycle cost at these high truck traffic locations.

#### Selection Criteria

Traffic Interchange ramp/crossroad and frontage road/crossroad intersections will be constructed using PCCP when the following criteria are met.

I. Urban Area Freeway Traffic Interchanges

All signalized intersections of TI ramps with crossroads and frontage roads with crossroads, in Urban Freeway locations, will be constructed using PCCP.

II. Rural Interstate Traffic Interchanges

Intersections of TI ramps with crossroads on the Interstate System will be constructed using PCCP when all of the following conditions are met.

1. There has been a history of frequent repairs to the existing pavement due to heavy truck traffic.
2. The life cycle cost for PCCP is less than or equal to that of asphaltic concrete pavement.

The above criteria apply to the initial construction, or major reconstruction, of an intersection. The criteria do not apply to pavement rehabilitation or preservation projects. The limits of the PCCP will be determined on a case by case basis.

**Justification Procedure**

Requests for the use of PCCP at intersections in rural areas should be made to the Project Manager prior to or at the initial scoping field review. The request should include a discussion of:

1. Current traffic data including truck volumes
2. History of any snow or ice buildup
3. Existing pavement conditions including rutting and/or shoving, and cracking (photos of condition are strongly suggested)
4. Pavement maintenance history and costs (type and frequency of repairs and approximate cost per year)
5. Anticipated future development that would increase truck traffic
6. Utility impacts