Critical Urban Freight Corridors Identification Methodology

Background and Purpose

The following summarizes the methodology for identifying Critical Urban Freight Corridors (CUFCs) as described in 23 U.S.C 167(c) and (f). According to the code, PAG as the MPO representing an urbanized area with a population of more than 500,000 may designate, in consultation with Arizona Department of Transportation (ADOT), a public road within the boundary of the Tucson urbanized area as a CUFC. A road, once designated, will become part of the National Highway Freight Network (NHFN) making projects on the corridor eligible for funding under the National Highway Freight Program (NHFP) and Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) competitive grants program.

The State of Arizona may designate a maximum of 102.56 centerline miles of roadways as CUFCs. Following discussions with ADOT and the Maricopa Association of Governments, PAG is anticipating an allocation of 30 miles for the Tucson urbanized area.

In order to be eligible to receive CUFC designation, a roadway must meet one or more of the following four elements:

(A) connects an intermodal facility to:

1. the Primary Highway Freight System (PHFS);
2. the Interstate System; or
3. an intermodal freight facility;

(B) is located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement;

(C) serves a major freight generator, logistic center, or manufacturing and warehouse industrial land; or

(D) is important to the movement of freight within the region, as determined by the MPO or the State.

Corridor Identification Approach

PAG will use a score-based GIS and travel demand modeling approach for ranking potential roadways for CUFC designation.

1. Urbanized Area Boundary:

The first step of the process is to eliminate corridors that fall outside of the Tucson urban area boundary.

Element	Score
Roadway is within the Tucson UZA	Move on to step 2
Roadway is outside of the Tucson UZA	Eliminate from Consideration
Data Needs: Census UZA boundary	

2. Freight Volumes

Truck volumes were estimated on regional corridors using Transearch routing data. Scores were assigned based on natural breaks in the numbers as determined by Arcview GIS.

Element	Score
300 freight trucks per day or more	10
125-299 freight trucks per day	6
40-124 freight trucks per day	4
Fewer than 40 freight trucks per day	0
Data Source: TRANSEARCH roadway freight truck volume data	

3. Freight Value

The value of truck commodities moving on regional corridors were then estimated on regional corridors using Transearch routing data. Scores were assigned based on natural breaks in the numbers as determined by Arcview GIS.

Element	Score
$4.5 million freight value per year or more	10
$2 million-$4.49 million freight value per year	6
$500,000-$1.99 million freight value per year	4
Less than $500,000 freight value per year	0
Data Source: TRANSEARCH roadway freight truck value data	

4. Stakeholder Identified Routes

Stakeholder routes were those identified by the freight task force at the August freight plan kick-off meeting. Weighting was increased in scenarios 2 and 3 below.

Element	Score
Identified at three tables	6
Identified at two tables	4
Identified at one table	2
Not identified at any tables	0

5. Connects an intermodal freight facility to an intermodal freight facility or an interstate

Corridors connecting the Port of Tucson to Tucson International Airport, or that connected either facility to the interstate were assigned 10 points.

Element	Score
Connects a freight intermodal facility to the interstate or another freight intermodal facility	10
Does not connect an intermodal facility to the interstate or another intermodal facility	0
Data Needs: Intermodal Identification, GIS files identifying connections	

6. Corridor has needed improvements identified in TIP or RMAP

Corridors identified for improvements in the recently adopted 2045 Regional Mobility and Accessibility Plan (RMAP) or Transportation Improvement Program (TIP) were given extra points. This was used an indication of improvement needs on the corridor. Weighting was reduced for this element under scenario 3 below.

Element	Score
Roadway has projects in the RMAP or TIP	10
Roadway has projects in the RMAP reserve list	5
Roadway has no projects associated with it	0
Data Needs: RMAP/TIP Project database and reserve list	

7. Corridor not otherwise eligible for FASTLANE or NHFP funds

Corridors that would not otherwise be eligible for freight specific (those located on an interstate or the National Highway System) were given a few additional points for consideration.

Element	Score
Roadway not eligible for funding because it is not currently on the NHS nor part of the NHFN	4
Roadway is eligible for FASTLANE but not NHFP funds	2
Roadway already eligible for both FASTLANE and NHFP funding	0
Data Needs: NHS and Interstate roadways	

8. Connects to significant transportation/distribution/manufacturing cluster

In the last step, we overlaid top scoring corridors on employment clusters of freight-intensive industries. This allowed for a visual review that CUFC nominated corridors are serving top freight generating or top freight receiving locations.

CUFC Review

Following staff ranking of corridors using the criteria, three scenarios were developed. The freight plan task force is being asked to review the scenarios and make recommendations. Staff will take those recommendations and develop a finalized list of the 30 miles of CUFCs. These will then be forwarded on to PAG committees for review and approval. Once approved, CUFCs will be sent to ADOT for transmittal to FHWA and possible inclusion in the State Freight Plan.