

CMAQ: Highway/Road Improvements

Project Name: _____ MPMS# (if known): _____

Please be sure a brief project description and applicable attachments are included as directed in the 'Candidate Project Description' form.

1. Type of Project:

- a. Arterial Improvements: _____ Yes _____ No
- b. Electronic Toll Collection at Toll Plaza: _____ Yes _____ No
- c. Incident Management: _____ Yes _____ No
- d. Roundabout Analysis: _____ Yes _____ No
- e. Other (describe): _____ Yes _____ No

A. Arterial Improvements:

2. Road Section Description (for grid improvements, please repeat for each road section in the project):

- a. Number of Lanes (one-way): _____ lanes
- b. Volume (one-way AADT): _____ vehicles
- c. Peak Hour Level of Service (check one): _____ A _____ B _____ C _____ D _____ E _____ F

3. Signal Improvements:

a. Number of Signals per Approach:

<u>Traffic Signals</u>	<u>Major Approach</u>	<u>Minor Approach</u>
Existing: _____	_____	_____
New: _____	_____	_____
Improved: _____	_____	_____

- b. Signal Coordination Improvements (check one): _____ No Improvements _____ Favorable Progression
 _____ Highly Favorable Progression _____ Exceptional Progression

c. Signal Timing Changes (check one):

Green Time: _____ None _____ Add 10% more green time _____ Add 20% more green time
 _____ Other (specify change in green time): _____ seconds

Consider impact on cross street flow? _____ Yes _____ No

If yes: Average Cross Street Volume (AADT) _____ Peak Level of Service (A-F) _____

4. Intersection Improvements:

- a. Are there Pedestrian Improvements? _____ Yes _____ No
- b. Number of Added Left-Turn Lanes? _____ lanes
- c. Number of Added Right-Turn Lanes? _____ lanes
- d. Jughandle Design? _____ Yes _____ No
- e. Realign Intersection? _____ Yes _____ No
- f. Channelize Intersection? _____ Yes _____ No
- g. Lengthen Hard Shoulder? _____ Yes _____ No

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5. What is the Level of Analysis (check one)? _____ Arterial Corridor Analysis _____ Individual Intersection Analysis

If Arterial Corridor Analysis:

a. What is the Segment Length? _____ miles

b. What is the Speed Limit? _____ mph

c. Mid-Block Improvements:

1. Add Center Left-Turn Lane? _____ Yes _____ No

2. Install Median Barriers? _____ Yes _____ No

3. Widen Existing Lanes? _____ Yes _____ No

4. Number of Added Through Lanes: _____ lanes

d. Traffic Diversions (optional):

	<u>Freeways</u>	<u>Arterials</u>	<u>Locals</u>
1. Estimated Peak Hour Diversion (for vehicles):	_____	_____	_____
2. Number of Competing Facilities:	_____	_____	_____
3. Competing Facility Speed (mph):	_____	_____	_____

e. Bus Lane Improvements:

1. Will a HOV/Bus-Only Lane Be Added? _____ Yes _____ No

2. Will a Queue Jump Lane Be Added? _____ Yes _____ No

If yes to either question above: Average Number of Buses per Hour: _____ AM _____ Midday
_____ PM _____ Night

3. Will a Bus Pull-Off Lane Be Added? _____ Yes _____ No

If yes: Average Number of Buses per Hour Using Added Pull-off Lane: _____ buses

4. Average Number of Riders per Bus: _____ AM _____ Midday _____ PM _____ Night

5. Percent of Total Bus Route in Section: _____ %

6. Average Year of Manufacturer for Buses: _____

7. Bus Fuel Type (check one): _____ Diesel _____ CNG _____ Electric _____ Other

If other, explain: _____

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B. Electronic Toll Collection at Toll Plaza:

6. Toll Plaza Characteristics:

	<u>Current</u>	<u>Future</u>
a. Toll Booths with No EZ-PASS/ETC:	_____	_____
b. Toll Booths Accepting All Payment Types:	_____	_____
c. Toll Booths Accepting EZ-PASS/ETC Only:	_____	_____
d. Number of HIGH SPEED EZ-PASS/ETC lanes:	_____	_____
e. Length of Toll Service Lanes (in feet):	_____	_____
f. Length of Upstream Roadway Section (in feet):	_____	_____
g. Number of Upstream Traffic Lanes:	_____	_____

7. Traffic Data:

- a. Annual Average Daily Traffic (AADT): _____ vehicles
- b. Percent of Vehicles with EZ-PASS/ETC Transponders: _____%
- c. Percent of Vehicles with EZ-PASS/ETC Transponders Using the HIGH SPEED Toll Lanes (if present): _____%

C. Incident Management:

8. Base Conditions:

- a. Section Name: _____
- b. Section Length: _____ miles
- c. AADT (1 way): _____ vehicles
- d. Number of Lanes (1 way): _____
- e. Speed Limit: _____ mph
- f. Peak Hour Level of Service (check one): _____ A _____ B _____ C _____ D _____ E _____ F
- g. Type of Roadway (check one): _____ Freeway _____ Arterial _____ Other
- If other, explain: _____

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9. Daily Incident Information:

a. Incidents Per Day for Roadway Section: _____ or Incidents Per Million Vehicle Miles for Roadway Section: _____

b. Accidents Per Day for Roadway Section: _____ or Accidents Per Million Vehicle Miles for Roadway Section: _____

c. Typical Blockage Due to Accident (check one): _____ 1 Lane _____ 2 Lanes _____ 3+ Lanes _____ Shoulder

d. Percent of Incident Delay that is Idling: _____%

e. Impact on Congestion (Low, Medium, High): _____ Freeway _____ Arterial _____ Local

Explain: _____

10. Incident Management Improvements:

a. Level of Incident Management Improvements (check all that apply):

_____ None

_____ Tow Truck Service

_____ Freeway Service Patrols

_____ Incident Management Centers

_____ Closed Circuit TV

_____ Other (describe): _____

b. Level of Incident Diversion Improvements (check all that apply):

_____ None

_____ Internet

_____ Highway Advisory Radio

_____ Variable Message Signs

D. Roundabout Analysis:

11. Existing Intersection(s) / Junction: _____

a. Total Approach Delay Per Vehicle (from HCS, Synchro, or other HCM-based software)

Time Period	NB	SB	EB	WB
AM (delay in seconds per vehicle):	_____	_____	_____	_____
Midday (delay in seconds per vehicle):	_____	_____	_____	_____
PM (delay in seconds per vehicle):	_____	_____	_____	_____
Night (delay in seconds per vehicle):	_____	_____	_____	_____

12. Roundabout Type (check one):

_____ Single Lane

_____ Urban Compact

_____ Double Lane

_____ Flared Double Lane - If yes, Length of Short Lane: _____ feet

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13. Hourly Volume:

Time Period	<u>Left</u>	NB <u>Thru</u>	<u>Right</u>	<u>Left</u>	SB <u>Thru</u>	<u>Right</u>
AM (veh/hr)	_____	_____	_____	_____	_____	_____
Midday (veh/hr)	_____	_____	_____	_____	_____	_____
PM (veh/hr)	_____	_____	_____	_____	_____	_____
Night (veh/hr)	_____	_____	_____	_____	_____	_____

Time Period	<u>Left</u>	EB <u>Thru</u>	<u>Right</u>	<u>Left</u>	WB <u>Thru</u>	<u>Right</u>
AM (veh/hr)	_____	_____	_____	_____	_____	_____
Midday (veh/hr)	_____	_____	_____	_____	_____	_____
PM (veh/hr)	_____	_____	_____	_____	_____	_____
Night (veh/hr)	_____	_____	_____	_____	_____	_____

E. Other:

14. Describe highway/road improvements that do not fit above categories A-D.

15. Additional Information:

If you need additional space, use and attach as many 'Additional Information' forms as needed.