Corridor Operational Performance Report

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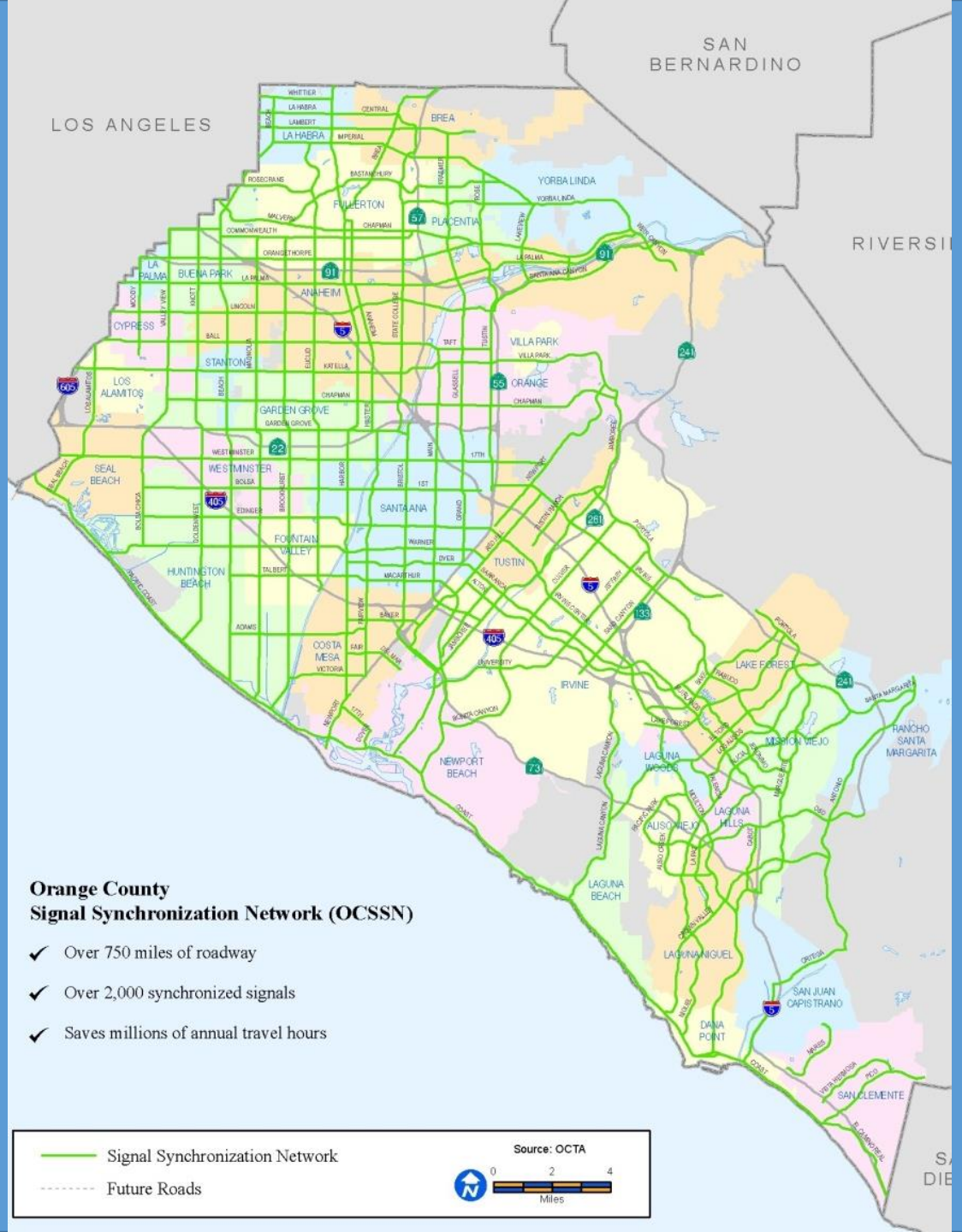
- Establish a Baseline for Corridor Performance
- Establish a Methodology for the Evaluation of Signal Synchronization
- Help Identify Signal Synchronization Opportunities for Future Funding
- Quantify Achievement of Signal Synchronization Efforts for Measure M2 requirements – the Local Signal Synchronization Plans

Background

The Corridor Operational Performance Report is developed every two years.

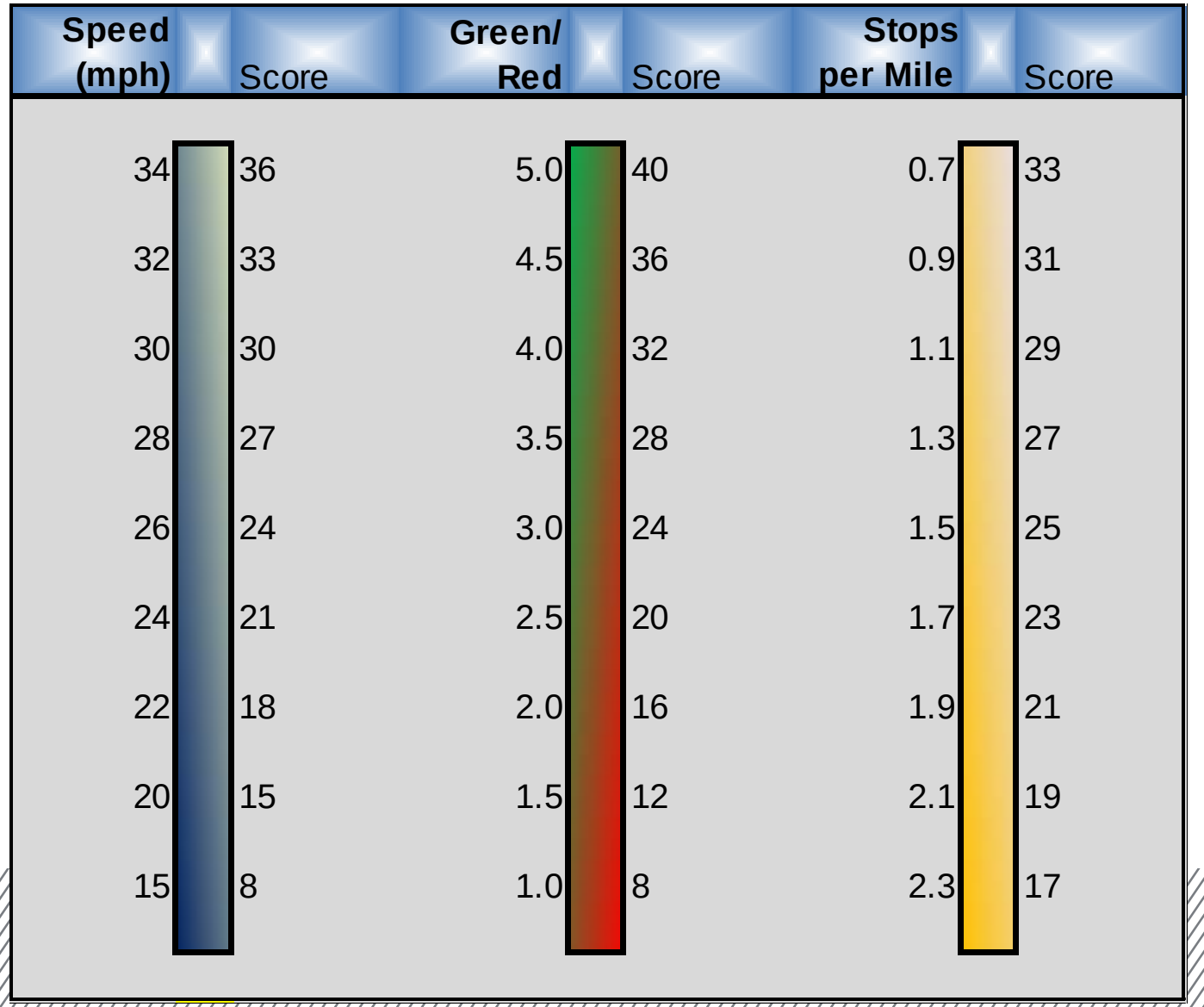
- 90 Corridors and Over 750 Centerline Miles
- AM, Midday, PM peak periods
- Three Travel Time Runs Each Period
- Three Levels of Evaluation
  - Countywide
  - Corridor
  - Major Segment
- GPS-based Travel Time Surveys
  - Speed
  - Greens to Reds
  - Stops per Mile


SAN BERNARDINO
LOS ANGELES
RIVERSI
BREA
YORBA LINDA
FULLERTON
PLACENTIA
BUENA PARK
ANAHEIM
CYPRESS
STANTON
LOS ALAMITOS
GARDEN GROVE
VILLA PARK
ORANGE
SEAL BEACH
WESTMINSTER
SANTA ANA
FOUNTAIN VALLEY
HUNTINGTON BEACH
TUSTIN
COSTA MESA
IRVINE
LAKE FOREST
RANCHO SANTA MARGARITA
MISSION VIEJO
NEWPORT BEACH
LAGUNA WOODS
LAGUNA HILLS
ALISO VIEJO
LAGUNA BEACH
LAGUNA NIGUEL
SAN JUAN CAPISTRANO
DANA POINT
SAN CLEMENTE
Orange County
Signal Synchronization Network (OCSSN)
✓ Over 750 miles of roadway
✓ Over 2,000 synchronized signals
✓ Saves millions of annual travel hours
Signal Synchronization Network
Future Roads
Source: OCTA
0 2 4
Miles

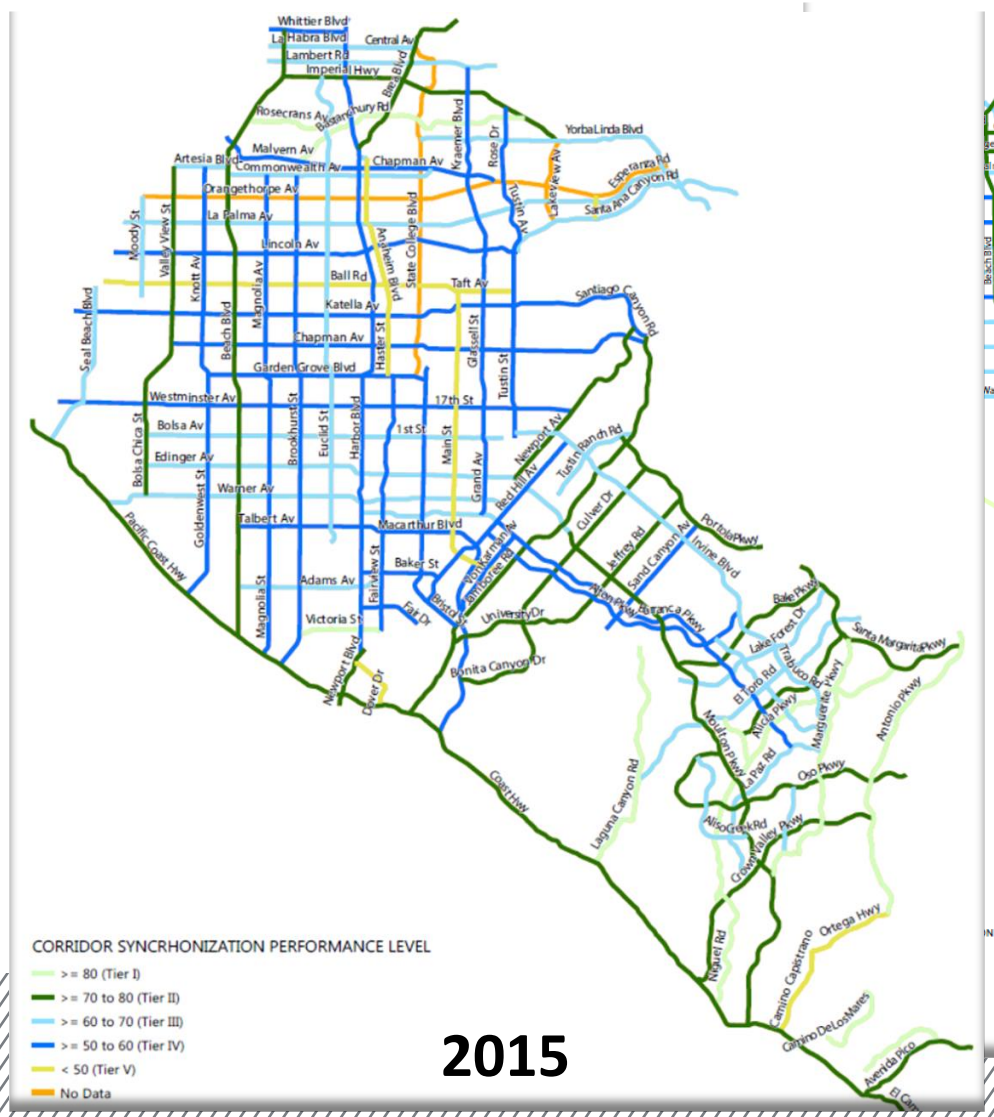
Corridor Synchronization Performance Index (CSPI)

- Corridor Synchronization Performance Index (CSPI) Measures the Benefits of Signal Synchronization
- CSPI Index Value is a Composite
  - Speed
  - Greens to Reds
  - Stops per Mile
- CSPI was Developed with the Input of Traffic Engineers from Local Agencies as Part of the Master Plan Development
- CSPI Compares Variety of Corridor Types and Travel Patterns

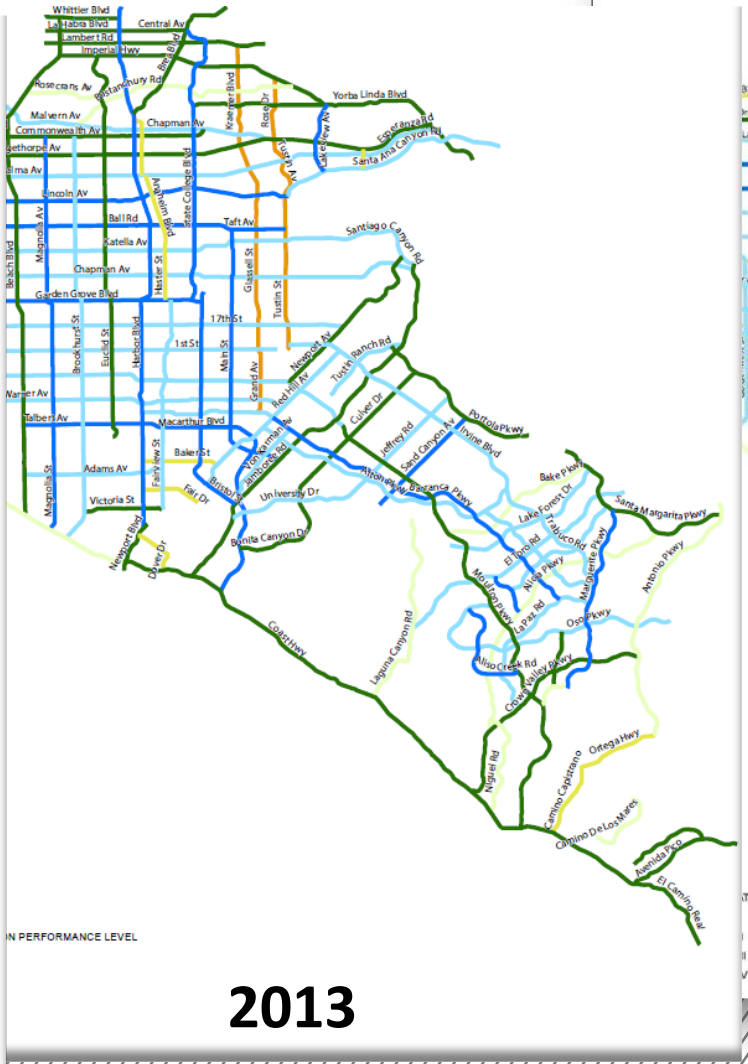
CSPI Components



CSPI Over Time



2015



2013

2011

CSPI Score and Description

CSPI Score	Signal Synchronization Description	Level
>=80	Very good progression – traveling through signalized intersections with minimal stops and favorable travel speeds.	Tier 1
70-80	Good progression – traveling through signalized intersections with few stops and good travel speeds.	Tier 2
60-70	Fair progression – traveling through signalized intersections with moderate stops and fair travel speeds.	Tier 3
50-60	Limited progression* – traveling through signalized intersections with moderately high stops and slower travel speeds.	Tier 4
< 50	Very limited progression* – traveling through signalized intersections with frequent stops and slow travel speeds.	Tier 5

*** Consider applying for signal synchronization funding**

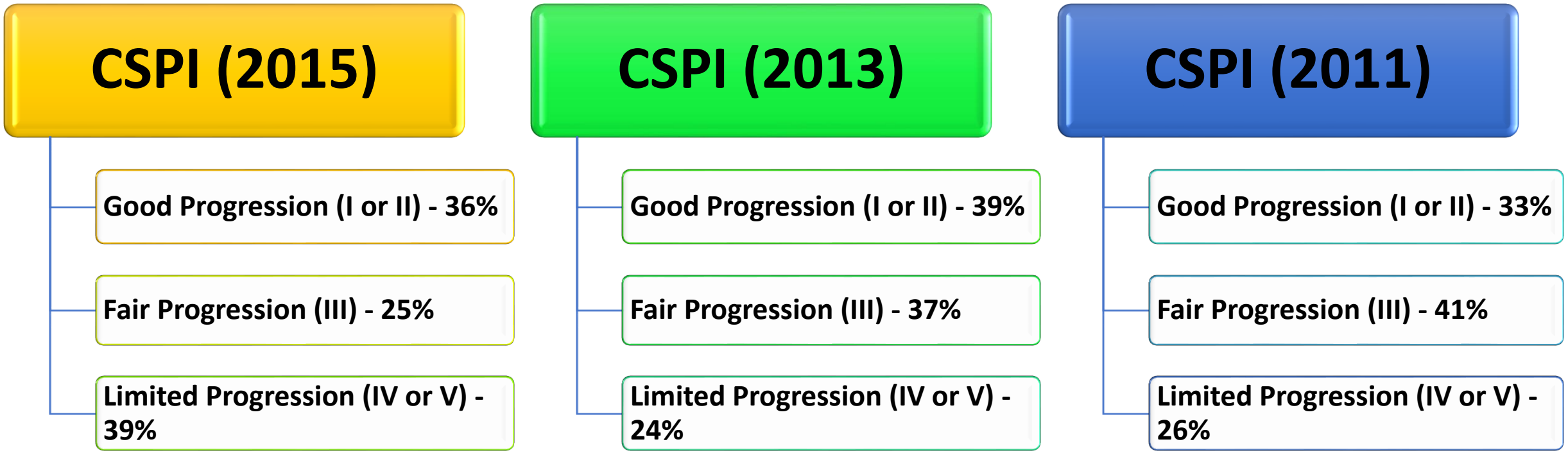
Corridor Performance: 2015 Summary

Average of AM/Midday/PM Peak Period					
CSPI Level		**Number of Corridors**	**Percent of Corridors**	**Centerline Miles**	**Percent Centerline Miles**
Tier 1	>=80	12	13%	64	8%
Tier 2	>=70 – 80	19	21%	200	26%
Tier 3	>=60 – 70	24	27%	185	24%
Tier 4	>=50 – 60	23	26%	254	33%
Tier 5	<50	9	10%	40	5%
Under Construction		3	3%	32	4%
Total		**90**	**100%**	**775**	**100%**

Corridor Performance: 2015, 2013, and 2011

CSPI (2015)	CSPI (2013)	CSPI (2011)
Speed: 24 mph	Speed: 25 mph	Speed: 25 mph
Green/Red: 1.8	Green/Red: 2.0	Green/Red: 1.9
Stop/Mile: 1.2	Stop/Mile: 1.2	Stop/Mile: 1.2
CSPI Value: 62.6	CSPI Value: 66.4	CSPI Value: 65.2
CSPI Level: Tier 3	CSPI Level: Tier 3	CSPI Level: Tier 3

CSPI: 2015, 2013, and 2011



CSPI Comparison between 2015 and 2013:

- 31 Corridors Improved
- 183 Centerline Miles (26%) of Corridors Improved
- 53 Corridors Lower
- 523 Centerline Miles (74%) of Corridors Lower
- VMT Grew Approximately 8% Between 2013 and 2015
- Key point: Continue Investing in Signal Synch

Benefits of the Current Approach to the Corridor Operational Performance Report

- It works!
- Monitors Corridor performance and provides information to M2 Local Signal Synchronization Plans.
- Identifies segments and corridors where signal synchronization funding would provide benefit to travelers.
- Helps facilitate signal synchronization between OCTA, Caltrans, and local jurisdictions.
- Been tested and consistent over the last three cycles.

Potential Improvements

- Rethink the CSPI based on new data sources
- Less resource intensive ways to collect similar type of data.
- Increase the sample size beyond three corridor runs per time period over two years.
- Explore new data sources available in lieu of floating car surveys that are less costly, easier, cheaper, sustainable:
  - Crowd source data: AirSage, Inrix, Streetlight
  - Data available from cities
  - Insight from the transportation community
- Recalculate corridor performance for previous years.

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