NHTS for Performance Measures

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Performance Measures

- Federal Transportation Performance Management (TPM) requirements
- Other performance measures

Federal TPM: 17 Performance Measures

Safety	490.207	(a)	(1)	Number of fatalities	1	PM 1
			(2)	Rate of fatalities per 100 million Vehicle Miles Traveled (VMT)	2	
			(3)	Number of serious injuries	3	
			(4)	Rate of serious injuries per 100 million VMT	4	
			(5)	Number of non-motorized fatalities and non-motorized serious injuries	5	
Pavement	490.307	(a)	(1)	Percentage of pavements of the Interstate system in Good condition	6	PM2
			(2)	Percentage of pavements of the Interstate system in Poor condition	7	
			(3)	Percentage of pavements of the non-Interstate NHS in Good condition	8	
			(4)	Percentage of pavements of the non-Interstate NHS in Poor condition	9	
Bridge	490.407	(c)	(1)	Percentage of NHS bridges classified as in Good condition	10	
			(2)	Percentage of NHS bridges classified as in Poor condition	11	
Reliability	**490.507**	**(a)**	**(1)**	**Percent of person-miles traveled on the Interstate that are reliable**	12	PM3
			(2)	**Percent of person-miles traveled on the non-Interstate NHS that are reliable**	13	
Freight	490.607			Truck Travel Time Reliability (TTTR) Index	14	
CMAQ - Congestion	**490.707**	**(a)**		**Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita**	15	
		(b)		***Percent of Non-Single Occupancy Vehicle (SOV) Travel***	16	
CMAQ - Emissions	490.807			Total Emissions Reduction	17	

Vehicle Occupancy - Reliability Measures

Table 1 - Average Vehicle Occupancy Factor for Travel Time Reliability Measures

Vehicle Type	Average Vehicle Occupancy Factor
All vehicles	1.7

$$AVO_{cars} = \sum_{r=1}^{R} \frac{([TRPMILES]_r \times [NUMONTRP]_r \times [WTTRDFIN]_r)}{([TRPMILES]_r \times [WTTRDFIN]_r)}$$

Where,

AVO_{cars} = average vehicle occupancy factors for cars;
"r" = a record in the queried "trippub" data;
"R" = total number of records in the queried "trippub" data;
$[TRPMILES]_r$ = trip distance, in miles for the data record "r";
$[NUMONTRP]_r$ = number of people on trip including respondent for the data record "r"; and
$[WTTRDFIN]_r$ = final trip weight for the data record "r". Please see section 5.3 of the 2017 NHTS Data User Guide;

Source: https://fhwa.dot.gov/tpm/guidance/avo_factors.pdf

Vehicle Occupancy – Peak Hour Excessive Delay (PHED) Measure

Table 2 - Annual Average Vehicle Occupancy Factors for Cars, Buses and Trucks for PHED Metrics

Vehicle Types	Applicable Area	Average Vehicle Occupancy Factors
Cars	All	1.7
Buses	Atlanta, GA	10.3
	Baltimore, MD	15.9
	Boston, MA-NH-RI	12.2
	Charlotte, NC-SC	8.5
	Chicago, IL-IN	10.9
	Cincinnati, OH-KY-IN	8.1
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	Seattle, WA	14.8
	St. Louis, MO-IL	6.9
	Washington, DC-VA-MD	8.9
Trucks	All	1.0

Source: https://fhwa.dot.gov/tpm/guidance/avo_factors.pdf

Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel

- Existing default method: ACS (Table DP03)

COMMUTING TO WORK				
Workers 16 years and over	3,123	+/-347	3,123	(X)
Car, truck, or van -- drove alone	2,341	+/-414	75.0%	+/-11.4
Car, truck, or van -- carpooled	444	+/-246	14.2%	+/-7.7
Public transportation (excluding taxicab)	67	+/-96	2.1%	+/-3.0
Walked	17	+/-33	0.5%	+/-1.1
Other means	93	+/-130	3.0%	+/-4.1
Worked at home	161	+/-97	5.2%	+/-3.1
Mean travel time to work (minutes)	25.2	+/-3.5	(X)	(X)

Moving Forward

- Vehicle Occupancy and Percent of Non-SOV travel at State and Urbanized Area levels
- NHTS and other datasets (e.g., crashes) will be used
- By cars, buses, and trucks