Metrics for Evaluating Multi-MPO Collaboration

Introduction

The metropolitan transportation planning process is designed, primarily, to improve transportation policy making and investment decisions across a single metropolitan area. Federal law (23 USC §134) assigns principal responsibility for this process to metropolitan planning organizations (MPOs).

MPOs, and other transportation agencies, use performance data to improve decision-making and monitor progress toward policy goals. The basic building blocks of this performance-based approach to planning and programming are metrics, measures, and targets.

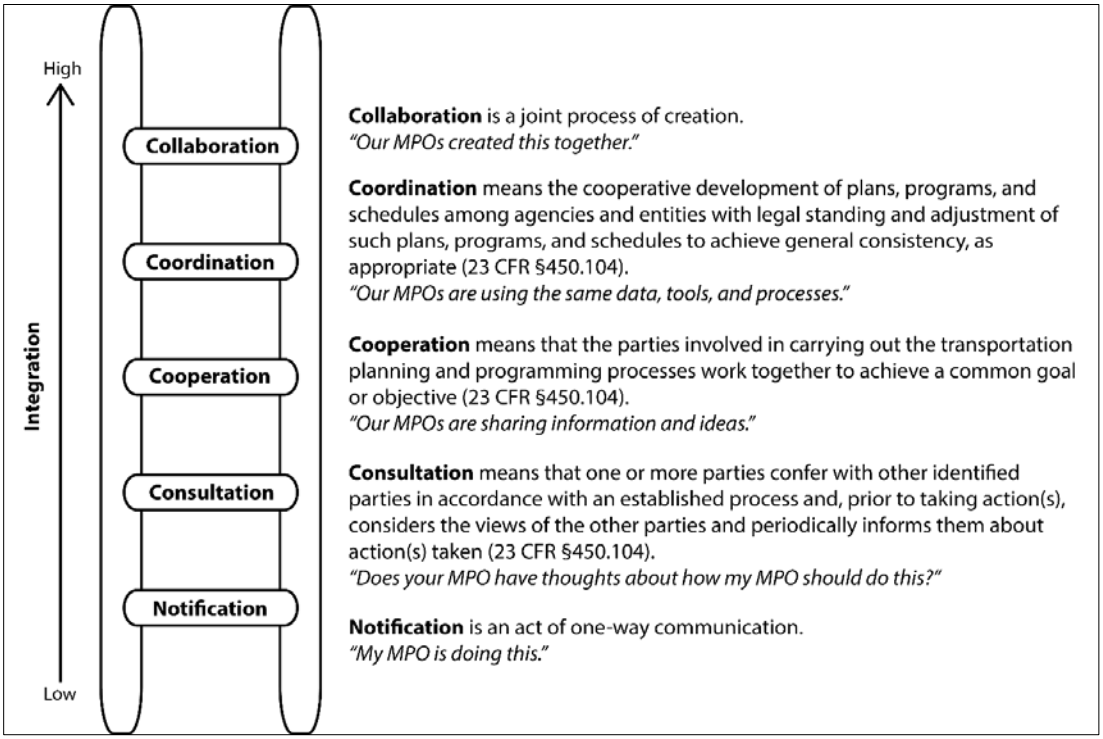
In this context, *metrics* are quantifiable indicators of performance or condition (23 CFR §450.104). For example, average vehicle speed along a highway segment is a metric that indicates the level of traffic congestion, where values above a specific threshold equal an uncongested segment.

Meanwhile, *measures* are expressions based on metrics that transportation agencies use to establish targets and to assess progress toward achieving the established targets (23 CFR §450.104). In the example above, the percentage of uncongested miles across the highway network is a measure of traffic congestion.

Finally, *targets* are quantifiable levels of performance or condition, expressed as a value for the measure, to be achieved within a specified time period (23 CFR §450.104). For the example above, the target is a specific percentage of uncongested miles across the highway network that a transportation agency needs to achieve by a certain date.

While cooperation and coordination between or among multiple MPOs on long-range planning processes or activities is common, the level of cooperation and coordination often changes over time, as conditions and priorities shift. In some cases, cooperation or coordination between or among MPOs leads to *interregional* collaboration, that is, working jointly across multiple metropolitan planning areas on new activities or work products. Figure 1 illustrates how cooperation, coordination, and collaboration between or among MPOs fit on a continuum of integration.

Figure 1. A ladder of multi-MPO participation, adapted from Arnstein (1969).



Federal statutes and regulations that govern the metropolitan transportation planning process establish baseline performance-based planning and programming requirements for MPOs. Under these requirements, MPOs must use specific transportation system performance measures and set targets for their respective planning areas. However, federal laws and rules do not directly address interregional performance measurement.

This paper explores how multiple neighboring or proximate MPOs can measure progress in achieving interregional planning and programming goals. The first section provides a summary analysis of the state of the practice, with a focus on federal requirements for performance–based transportation planning. The next section presents a potential framework for measuring interregional collaboration on planning processes and work products as well as interregional transportation system performance. The paper concludes with profiles of performance-based planning and programming experiences in three areas of the country where multiple MPOs have sustained collaborative planning efforts for more than a decade.

Key Points

Federal statutes and regulations that govern the metropolitan transportation planning process establish baseline performance-based planning and programming requirements for MPOs. Under these requirements, MPOs must use specific transportation system performance measures and set targets for their respective planning areas. However, federal laws and rules do not directly address interregional performance measurement.

Few MPOs have integrated interregional performance measures into their LRTPs or TIPs. However, MPOs in several states have worked collaboratively with each other

and with their state departments of transportation (DOTs) to develop state and metropolitan performance measures.

Federal statutes and regulations require MPOs to coordinate their transportation system goals with state and national goals, and they require MPOs to measure progress toward achieving these goals within their respective metropolitan planning areas. However, there are no federal requirements to set, or measure progress in achieving, interregional goals. Consequently, collaboration between or among multiple neighboring or proximate MPOs on performance metrics is an emerging practice, and there are several potential barriers to expanding this practice.

Federally required performance measures for MPOs focus exclusively on the effects of transportation decisions on transportation infrastructure condition and system performance. While it may be possible to extend this impact-based approach to measuring the performance of collaborative efforts between or among multiple neighboring or proximate MPOs, there are other potential approaches to measuring multi-MPO collaboration. For example, measuring the performance of collaborative processes may help MPOs and their partners identify opportunities to build organizational capacity and develop and act on shared priorities. Meanwhile, measuring collaborative work products may help MPOs track their progress toward implementing coordinated interregional decision-making processes.

Researchers from the American Planning Association and the Georgia Institute of Technology's Center for Quality Growth and Regional Development conducted qualitative case study research to learn more about how and why neighboring and proximate MPOs in three distinct areas of the country are coordinating their long-range planning efforts. The research team, in consultation with Federal Highway Administration staff, selected these three "multi-MPO coordination areas" based on their reputations for sustained coordination and collaboration over many years.

Eight MPOs in California's San Joaquin Valley have used federal requirements to coordinate their transportation conformity processes as a springboard for collaborative efforts focusing on goods movement, greenhouse gas emissions reductions, and growth management. While the MPOs developed shared performance measures through an interregional growth management planning process, they did not, subsequently, use these measures in their respective long-range transportation plans.

Ten MPOs in a four-state area around New York City have established a forum to improve information sharing and collaborative decision-making related to federally mandated transportation planning processes and work products. This forum has also provided opportunities to coordinate performance targets in response to federal performance management requirements.

Three MPOs in Southeast Florida have taken advantage of state statutes that encourage MPOs to enter into interlocal agreements for collaborative planning. These MPOs have developed a joint long-range transportation plan with collective goals, objectives, and performance measures.

State of the Practice

Federal statutes and regulations require MPOs to coordinate their transportation system goals with state and national goals, and they require MPOs to measure progress toward achieving these goals within their respective metropolitan planning areas. However, there

are no federal requirements to set, or measure progress in achieving, interregional goals. Consequently, collaboration between or among multiple neighboring or proximate MPOs on performance metrics is an emerging practice, and there are several potential barriers to expanding this practice.

Federal Requirements for Performance Management

Performance management is a strategic approach to organizational management that uses performance data to support decisions and monitor progress toward achieving performance goals (Grant et al. 2013). Performance-based planning and programming (PBPP) applies performance management principles to long-range transportation planning and short-term transportation project programming.

Federal law establishes seven national performance goals for the federal-aid highway program (23 USC §150(b)):

1. **Safety**. Achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure condition**. Maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion reduction**. Achieve a significant reduction in congestion on the National Highway System.
4. **System reliability**. Improve the efficiency of the surface transportation system.
5. **Freight movement and economic vitality**. Improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **Environmental sustainability**. Enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **Reduced project delivery delays**. Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

All MPOs, along with their respective state DOTs, must use PBPP and transportation performance management (TPM) to support these goals and the general purposes of federal statutes governing public transportation (23 USC §134(h)(2); 49 USC 5303(h)(2)). Federal regulations specify performance measures for safety (PM1), pavement and bridge condition (PM2), system performance (PM3), and transit asset management (TAM) (23 CFR §490; 23 CFR §924; 49 CFR §625.41 et seq.). These regulations also describe how MPOs should set targets, report progress, and include performance management in their long-range transportation plans (LRTPs) and transportation improvement programs (TIPs) (23 CFR §450.306(d);§450.314(h); §450.324(f)(3)&(4); §450.326(c)&(d)).

Table 1 lists the performance measures MPOs must integrate into their planning and programming processes. Table 2 lists the deadlines for establishing performance targets for each measure and including targets in LRTPs and TIPs.

Table 1. Federally required performance measures for MPOs

Performance Measure Area	Performance Measures
Safety (PM1)	• Number of fatalities • Rate of fatalities

	• Number of series injuries • Rate of serious injuries • Number of non-motorized fatalities and serious injuries
Pavement and Bridge Condition (PM2)	• Percentage of Interstate System pavement in good condition • Percentage of Interstate System pavement in poor condition • Percentage of other National Highway System pavement in good condition • Percentage of other National Highway System pavement in poor condition • Percentage of National Highway System bridges by deck area in good condition • Percentage of National Highway System bridges by deck area in poor condition
System Performance (PM3)	• Percent of person-miles traveled on the Interstate System that are reliable • Percent of person-miles traveled on other parts of the National Highway System that are reliable • Truck Travel Time Reliability (TTTR) Index
Transit Asset Management (TAM)	• Percentage of non-revenue, support-service, and maintenance vehicles that have met or exceeded their useful life benchmark (ULB) • Percentage of revenue vehicles within a particular asset class that have either met or exceeded their ULB • Percentage of rail fixed-guideway track segments with performance restrictions • Percentage of buildings and structures within an asset class rated below condition 3 on the Transit Economic Requirements Model (TERM) scale.

Table 2. MPO deadlines for setting performance targets and incorporating targets into LRTPs and TIPs

Performance Measure Area	MPO Deadline for Setting Initial Performance Targets	Deadline for Incorporating Targets in LRTPs and TIPs
Safety (PM1)	Up to 180 days after the state(s) sets targets, but not later than February 27, 2018	Updates or amendments on or after May 27, 2018

Pavement and Bridge Condition (PM2)	Up to 180 days after the state(s) sets targets, but not later than November 16, 2018	Updates or amendments on or after May 20, 2019
System Performance (PM3)	Up to 180 days after the state(s) sets targets, but not later than November 16, 2018	Updates or amendments on or after May 20, 2019
Transit Asset Management (TAM)	Up to 180 days after the transit provider(s) adopts its transit asset management plan, but not later than October 1, 2018	Updates or amendments on or after October 1, 2018

The Prevalence of Interregional Performance Metrics

Few MPOs have integrated interregional performance measures into their LRTPs or TIPs. However, MPOs in several states have worked collaboratively with each other and with their state departments of transportation (DOTs) to develop state and metropolitan performance measures or targets. The examples below reflect the state of the practice and potentially lay a strong foundation for promoting the development of interregional performance management systems and metrics in the future.

Florida

Florida has adopted a collaborative approach among federal, state, and regional transportation agencies to implement federal PBPP requirements (FHWA 2015a). In April 2014 the Florida DOT (FDOT) hosted a collaboration workshop attended by representatives of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and MPOs statewide. The workshop marked the first step in a coordinated approach to reconciling state-level with MPO-level needs and perspectives and a shared understanding that establishment of targets needed to be collaborative and ongoing. In 2018, the Florida Metropolitan Planning Organization Advisory Council (MPOAC) worked collaboratively with the FDOT to develop safety performance targets (PM1) for each of Florida's 27 MPOs (MPOAC 2018). Then, in 2019, MPOAC and FDOT produced a Consensus Planning Document detailing performance management roles and responsibilities among the state, MPOs, and transit providers.

Missouri

Meanwhile, the Missouri DOT (MoDOT) serves as a model of DOT leadership in collaborating with MPOs and regional planning commissions on PBPP. In November 2012, the Missouri DOT (MoDOT) met with the state's nine MPOs to discuss the performance management provisions of the newly updated federal statutes governing the state and metropolitan long-range transportation planning processes (FHWA 2015b). Following this meeting, MoDOT set up a collaborative web portal to facilitate information and resource sharing between the DOT and MPOs (FHWA 2015b). Then, in early 2015, MoDOT initiated monthly webinars on federal requirements for PBPP. Representatives from MPOs, FHWA, FTA, and staff from neighboring states that share MPOs with Missouri (Arkansas, Kansas, and Illinois) attended these webinars. The most recent version of the state's LRTP documents these efforts (MoDOT 2018).

New Hampshire

In 2015, the Strafford Regional Planning Commission (SRPC) formed a workgroup with the New Hampshire DOT, the other three MPOs in New Hampshire, the FHWA, the FTA and the New Hampshire Department of Environmental Sciences to work out a joint strategy and methodology to develop mandated and supplemental performance measures (2019). The group has continued to meet regularly since mid-2016 and has used focused interviews and discussions with a diverse set of stakeholders to consider multiple perspectives and key priorities in the development of supplemental consensus performance metrics and statewide measures (PFPNH 2019b). Through this process, the workgroup has selected seven consensus performance measures to supplement federally required measures (see table 3) (PFPNH 2019a).

Table 3. Partnering for Performance NH supplemental performance measures

Performance Measure	Data Sources
Motorcycle fatalities (five-year rolling average)	National Highway Traffic Safety Administration's Fatality Analysis Reporting System
Transportation-related greenhouse gas emissions per capita	U.S. Environmental Protection Agency's National Emissions Inventory
Remaining useful life for transit fleet	FTA's National Transit Database
Major employers served by transit	New Hampshire Employment Security's Employment Data
Fixed-route transit ridership	FTA's National Transit Database
Transit fleet using alternative fuels	FTA's National Transit Database
General & low-income people served by transit	U.S. Census Bureau's (USCB) TIGER/Line 2010 Census Population and Housing Counts by Block; USCB American Community Survey 5-Year Estimates; transit agency fixed-route stops or routes

Utah

Over multiple planning cycles, Utah's MPOs, DOT, and the Utah Transit Authority have collaborated on a Unified Transportation Plan (UTP) covering the entire state (Markiewicz et al. 2017). During the 2015 UTP process, these agencies held a series of workshops to develop joint goals, objectives, and performance measures (Metro Analytics 2014). The partners used seven criteria to screen potential joint performance measures:

- Commonality: Do all partners care about and have influence over the measure?
- Understandable: Is it easy to explain the measure and its value to citizens?
- Value of measure: How important is the measure to transportation system performance?
- Level of control: To what extent do project and policy choices affect the measure?
- Trackable: Is it easy to obtain data and perform calculations for the measure?

- Predictable: Are there reliable ways to forecast the effects of projects and policies on the measure?
- Connection to goals: How strongly is the measure connected to one or more goals?

Ultimately, the partners agreed to a set of five joint goals connected to six joint objectives and performance measures (see table 4). The partners also agreed, in concept, to using these joint performance measures for project selection for the 2019 UTP.

Table 4. Utah's joint performance goals, objectives, and measures

Goals	Key Objectives	Key Performance Measures
Safety	Reduce the number of fatal and serious injuries on the transportation system	Fatalities + serious injuries per capita
Economic Vitality	Increase the number of jobs and services that Utahns can reach within a certain travel time	Number of jobs and services that can be reached within a certain travel time by average household
State of Good Repair	Keep infrastructure in good condition	Percent of useful life remaining
Air Quality	Reduce emissions that adversely affect health, quality of life, and the economy	Key mobile source ozone and PM2.5 emissions
Mobility & Accessibility	Reduce the likelihood of driving long distances daily	Vehicle miles traveled per capita
	Increase the share of trips using non-single-occupancy-vehicle modes	Commute mode split percentages

Interregional Performance Management Challenges

Interregional projects involving multiple MPOs require collaborative strategic planning among stakeholders with diverse interests. A recent study on facilitating MPO megaregional planning efforts through organizational changes notes several potential barriers to implementing a performance management approach at the interregional scale, as discussed below (Loftus-Otway 2019).

MPOs Have Had Varying Success at Implementing PBPP

While performance measurement has been common among MPOs for many years, relatively few MPOs used performance measures and targets to inform transportation decision-making until required to do so by federal regulations (see table 2) (T4A 2017). Several initial factors—such as the definition of a core mission with measurable key indicators, reconciling conflicting goals, reconciling indicators with an agency's technical competencies, and ensuring resource availability to carry through performance measures into management—

are a prerequisite for the successful implementation of performance management (Loftus-Otway 2019). The failure to implement these consistently within individual organizations may pose an even greater challenge to implement across MPO planning area boundaries.

MPOs Have Varying Capacities

Varying staff and administrative capacities within MPOs have a significant impact on their abilities to go beyond baseline federal requirements and the speed with which the MPO can reorient its data collection and measurement priorities based on new requirements (Loftus-Otway 2019; T4A 2017). Overall, the assimilation of performance measures has been slow. Aligning with federal measures takes priority and may slow the development of more detailed and aggressive performance measurement goals at the local, regional, and interregional scale, which can create a further barrier to prioritizing coordinated projects at the interregional scale, particularly in the absence of specific mandates or incentives.

MPOs Have Varying Methodologies

MPOs use different methods to estimate future demand on the transportation system, which are a direct result of different population and demographic projections, different modeling assumptions, differing degrees of data quality, and variations in technical expertise. These differences in projections can be based on varying methods or simply a result of different degrees of urbanization. This sets up an additional barrier to developing a performance management framework at the interregional scale.

MOUs May Help Overcome These Barriers

To successfully create an interregional performance measurement framework, MPOs will need to align their performance management strategies to create coordinated plans across multiple MPO planning areas. Designing performance management strategies and incorporating them into memoranda of understanding (MOUs) with other MPOs may facilitate the development of an interregional performance measurement framework (Loftus-Otway 2019).

Potential Interregional Performance Metrics

Federally required performance measures for MPOs focus exclusively on the effects of transportation decisions on transportation infrastructure condition and system performance. While it may be possible to extend this impact-based approach to measuring the performance of collaborative efforts between or among multiple neighboring or proximate MPOs, there are other potential approaches to measuring multi-MPO collaboration. For example, measuring the performance of collaborative processes may help MPOs and their partners identify opportunities to build organizational capacity and develop and act on shared priorities. Meanwhile, measuring collaborative work products may help MPOs track their progress toward implementing coordinated interregional decision-making processes.

Process-Based Performance Metrics

Many private and public organizations routinely use process-based performance metrics to help them evaluate program performance. For example, MPOs often apply metrics to citizen participation processes to gauge the quality and efficacy of community engagement programs. Through regular data collection, MPOs learn whether program implementation is unfolding as intended.

Process-based performance metrics can help collaboratives consisting of multiple neighboring or proximate MPOs evaluate their level of planning process integration (see

figure 1). Furthermore, these metrics may yield useful insights that strengthen the prospect of developing joint work products.

Table 5 presents a series of potential process-based performance metrics organized by broad performance measure areas. These metrics are for illustrative purposes only and may not be appropriate for every MPO or multi-MPO collaborative.

Table 5. Potential process-based performance metrics for multi-MPO collaboratives

Potential Performance Measure Area	Potential Performance Metrics
Agreements	• Number of MPOs (or host organizations) as signatories to an active coordination or collaboration agreement between or among multiple MPOs • Number of other public agencies as signatories to an active coordination or collaboration agreement between or among multiple MPOs • Number of nontraditional planning partners as signatories to an active coordination or collaboration agreement between or among multiple MPOs • Duration (in years) of coordination or collaboration subject to an agreement between or among multiple MPOs • Number of distinct areas of coordination or collaboration addressed by an active agreement between or among multiple MPOs
Policy board composition	• Number of neighboring or proximate MPOs with voting representation on each MPO policy board • Number of neighboring or proximate MPOs with non-voting representation on each MPO policy board
Technical advisory committee composition	• Number of neighboring or proximate MPOs with voting representation on each MPO technical advisory committee • Number of neighboring or proximate MPOs with non-voting representation on each MPO technical advisory committee
Joint policy board, coordinating committee, or workgroup composition	• Number of MPOs (or host organizations) with voting representation on a joint policy board • Number of other public agencies with voting representation on a joint policy board • Number of nontraditional planning partners with voting representation on a joint policy board

Potential Performance Measure Area	Potential Performance Metrics
	• Number of MPOs (or host organizations) with non-voting representation on a joint policy board • Number of other public agencies with non-voting representation on a joint policy board • Number of nontraditional planning partners with non-voting representation on a joint policy board • Number of MPOs (or host organizations) with representation on a joint coordinating committee or workgroup • Number of other public agencies with representation on a joint coordinating committee or workgroup • Number of nontraditional planning partners with representation on a joint coordinating committee or workgroup
Joint policy board, coordinating committee, or workgroup meetings	• Number of joint policy board meetings within the last 12 months • Number of joint coordinating committee or workgroup meetings within the last 12 months • Duration (in hours) of joint policy board, coordinating committee, or workgroup meetings over the last 12 months
Collaborative planning events	• Number of collaborative planning events within the last 12 months • Duration (in hours) of collaborative planning events over the last 12 months • Number of persons participating in collaborative planning events within the past 12 months

Product-Based Performance Metrics

Federal statutes and regulations governing the metropolitan transportation planning process require all MPOs to periodically produce five distinct work products:

1. Metropolitan transportation plan (also known as an MPO's long-range transportation plan or LRTP)
2. Transportation improvement program (TIP)
3. Annual listing of obligated projects
4. Public participation plan (PPP)
5. Unified planning work program (UPWP)

Additionally, federal statutes and regulations reference other optional work products, including corridor or subarea planning studies, programmatic mitigation plans, and, for

MPOs operating in Transportation Management Areas (TMAs), congestion management plans. Furthermore, multiple neighboring or proximate MPOs may produce joint work products that document mutual or interregional goals, priorities, projects, or activities.

Product-based performance metrics can help collaboratives consisting of multiple neighboring or proximate MPOs evaluate their level of work product integration (see figure 1). Furthermore, these metrics may provide valuable feedback on the public transparency of collaborative efforts.

Table 6 presents a series of potential product-based performance metrics organized by broad performance measure areas. These metrics are for illustrative purposes only and may not be appropriate for every MPO or multi-MPO collaborative.

Table 6. Potential product-based performance metrics for multi-MPO collaboratives

Potential Performance Measure Area	Potential Performance Metrics
Long-range transportation plans	• Percentage of objectives referencing interregional issues or collaboration in each MPO's current LRTP • Percentage of projects supporting interregional goals in each MPO's current LRTP • Number of MPOs adopting a joint LRTP
Transportation improvement programs	• Percentage of project funding supporting interregional goals in each MPO's current TIP • Number of MPOs adopting a joint priority project list
Annual listings of obligated projects	• Percentage of project funding supporting interregional goals in each MPO's most recent annual listing of obligated projects
Work programs	• Percentage of activities tied to coordination or collaboration with other MPOs in each MPO's current unified planning work program • Number of MPOs adopting a joint work program
Other joint studies or plans	• Number of interregional studies or plans (other than a joint LRTP) adopted or accepted by multiple MPOs over the past five years
Transportation models	• Number of MPOs using the same travel demand model in their long-range transportation planning processes

Potential Performance Measure Area	Potential Performance Metrics
Data products	• Number of MPOs using a joint data product in their long-range transportation planning processes
Information and data-sharing platforms	• Number of multi-MPO collaborative work products available from a single publicly accessible web page or website • Number of updates to a publicly available web page or website documenting multi-MPO collaborative work products and activities over the past 12 months

Impact-Based Performance Metrics

The existing set of federally required performance measures are designed to provide feedback on the impacts of transportation planning and programming decisions on transportation system conditions and performance (see table 1). While multi-MPO collaboratives could use these measures to evaluate interregional transportation impacts, many MPOs are also interested in measuring the effects of transportation decisions on economic competitiveness, health, access to opportunity, and quality of life (T4A 2017). Several agencies and organizations have documented potential additional impact-based performance metrics that transportation agencies could use at multiple geographic scales (e.g., ICF International 2011; Grengs et al. 2013; Osborne et al. 2015).

Impact-based performance metrics that highlight connections between neighboring or proximate MPO planning areas may provide valuable feedback on interregional transportation system performance (i.e., system performance across multiple MPO planning areas). Table 7 presents a series of potential impact-based performance metrics organized by broad measure area. These metrics are for illustrative purposes only and may not be appropriate for every MPO or multi-MPO collaborative.

Table 7. Potential impact-based performance metrics for multi-MPO collaboratives

Potential Performance Measure Area	Potential Performance Metrics
Interregional Commuting	• Percentage of working population traveling more than 50 miles and spending more than 90 minutes to reach their place of work (at least one time per week) (i.e., mega commuters) • Percentage of mega commuters residing in households earning 80% or less of the area median income (AMI) • Percentage of mega commuters who use interregional bus or train service • Percentage of mega commuters residing in households earning 80% or less of AMI who use interregional bus or train service

Potential Performance Measure Area	Potential Performance Metrics
Interregional Transit Accessibility	• Percentage of population within one mile of an interregional bus or train stop or station • Percentage of jobs within one mile of an interregional bus or train stop or station • Percentage of households without access to a private vehicle within one mile of an interregional bus or train stop or station • Percentage of households earning 80% or less of AMI within one mile of an interregional bus or train stop or station
Interregional Trail Accessibility	• Percentage of population who can access an interregional trail or greenway by fixed-route public transit in less than 60 minutes • Percentage of households earning 80% or less of AMI that can access an interregional trail or greenway by fixed-route public transit in less than 60 minutes
Evacuation route access	• Percentage of population within five miles of a designated evacuation route • Percentage of households earning 80% or less of AMI within five miles of a designated evacuation route • Average individual evacuation time • Average evacuation time for households earning 80% or less of AMI
Public health	• Percentage of households that can reach a level I or II trauma center within 60 minutes by ground ambulance • Percentage of households earning 80% or less of AMI that can reach a Level I or II trauma center within 60 minutes by ground ambulance • Percentage of population living within 500 feet of Interstate and other highways included in the National Network for Conventional Combination Trucks • Percentage of households earning 80% or less of AMI within 500 feet of Interstate or other highways included in the National Network for Conventional Combination Trucks

Multi-MPO Coordination Area Experiences

Researchers from the American Planning Association (APA) and the Georgia Institute of Technology's Center for Quality Growth and Regional Development (CQGRD) conducted qualitative case study research to learn more about how and why neighboring and proximate MPOs in three distinct areas of the country are coordinating their long-range planning efforts (see figure 2).

Figure 2. Multi-MPO Coordination Areas

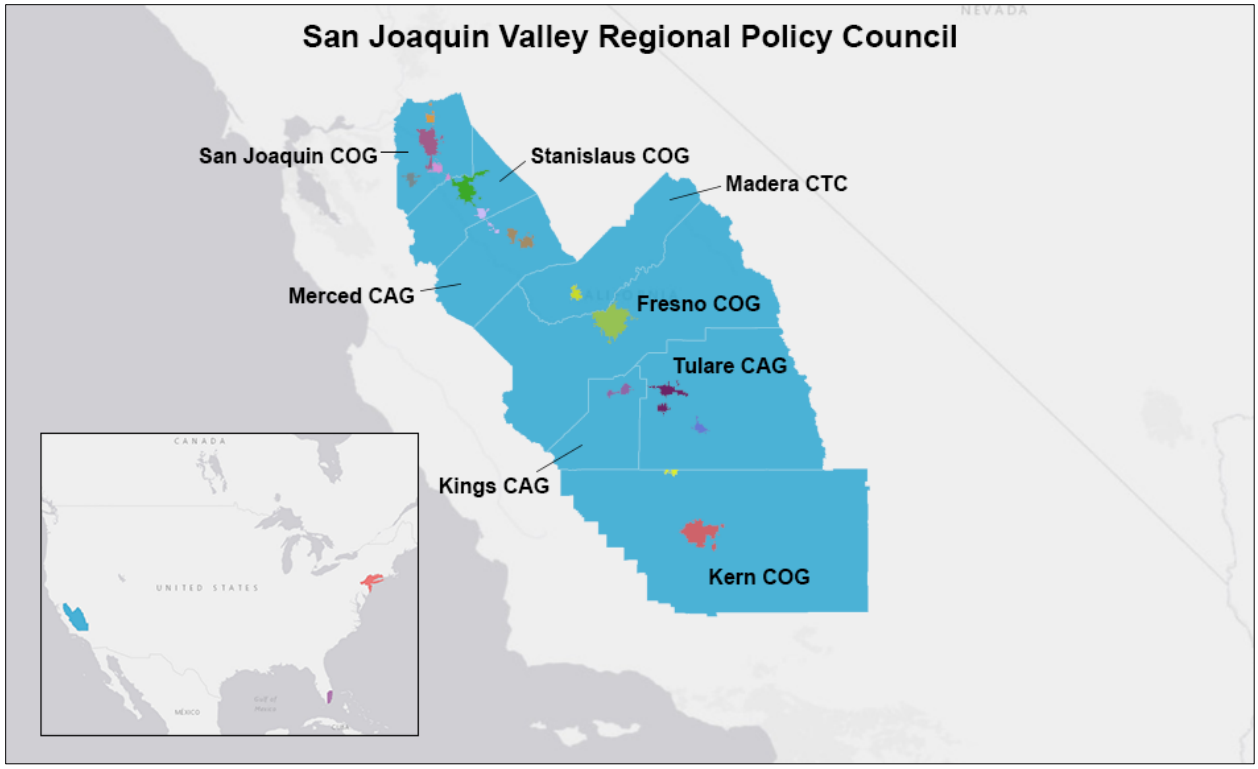
The research team, in consultation with Federal Highway Administration staff, selected these three "multi-MPO coordination areas" based on their reputations for sustained coordination and collaboration over many years. Through this process, APA and CQGRD staff reviewed MPO and partner plans, improvement and work programs, studies, formal agreements, meeting records, and websites. The team also interviewed senior MPO and local government staff members in each coordination area.

The following sections provide brief snapshots of each coordination area and summarize the extent to which the MPOs in each area have collaborated on performance measurement.

San Joaquin Valley Regional Policy Council

The San Joaquin Valley Regional Policy Council (SJVRPC) coordination area comprises the southern half of California's Central Valley, with a contiguous combined planning area of more than 27,000 square miles and an estimated population of more than four million residents. The coordination area name refers to a joint policy board established through a memorandum of understanding among eight MPOs (SJVRPC MOU 2006). Since 1992, a wide range of transportation, environmental, and economic issues have motivated these MPOs and their partners to collaborate on long-range transportation planning.

Figure 3. Constituent MPO planning areas and urbanized areas of the San Joaquin Valley Regional Policy Council coordination area (Sources: HEPGIS, Esri, HERE, NPS, Garmin, NGA, USGS, NPS)



In 2005, the State of California created a Regional Blueprint Planning Program to help regional planning agencies conduct scenario planning exercises to establish a preferred regional growth scenario for a 20-year planning horizon. The following year, the San Joaquin Valley (SJV) MPOs jointly applied for program funding to develop a shared valley-wide Blueprint. Between 2006 and 2009, the SJV MPOs developed and evaluated alternative growth scenarios. In April 2009, the SJVRPC adopted 12 Smart Growth Principles and a preferred growth scenario for the valley (Mintier Harnish 2010).

During the San Joaquin Valley Blueprint process, the San Joaquin Valley Blueprint Coordinating Committee approved an initial list of performance measures tied to goals addressing transportation, mass transit and transportation choice, air quality, economy and jobs/housing balance, agricultural land preservation, and environmental conservation (Mintier Harnish 2011). The SJV MPOs used these performance measures to analyze alternative growth scenarios (Mintier Harnish 2010). The SJVRPC did not adopt these performance measures as a component of the final preferred scenario, and the SJV MPOs have not been using them to measure performance after the project ended.

The eight SJV counties (excluding eastern Kern County) constitute a single air quality nonattainment area for ozone and particulate matter. This means the SJV MPOs must coordinate their efforts to reduce emissions under the California Air Resources Board's state implementation plan. The MPOs must demonstrate transportation conformity with air quality attainment plans for each iteration of their respective LRTPs and TIPs, and any associated amendments. Consequently, the MPOs have synchronized their planning schedules, underlying assumptions, and methodologies to align with the federal air quality conformity process (SJVRPC 2018).

The SJV MPOs adopted their most recent LRTPs in the spring and summer of 2018. Under California's Sustainable Communities and Climate Protection Act of 2008 (SB 375), each MPO in the state must prepare a Sustainable Communities Strategy (SCS) as a component of its LRTP. The SCS details a strategy for reducing greenhouse gas (GHG) emissions through coordinated transportation and land-use planning. A lack of technical data led the California Air Resources Board to establish the same placeholder GHG reduction targets for each SJV MPO in 2010 (CARB 2018). Because these targets remained in effect until late 2018, the most recent version of each of SJV MPO's LRTP includes the same GHG reduction targets.

According to multiple senior staff members, the SJV MPOs have not, to date, established any other valley-wide performance metrics, measures, or targets in response to state or federal requirements or interregional goals. Six of the eight SJV MPOs have adopted the state's PM1 targets. Meanwhile, Fresno COG and Kern COG each adopted its own PM1 targets. The SJV MPOs have not yet adopted PM2 or PM3 targets.

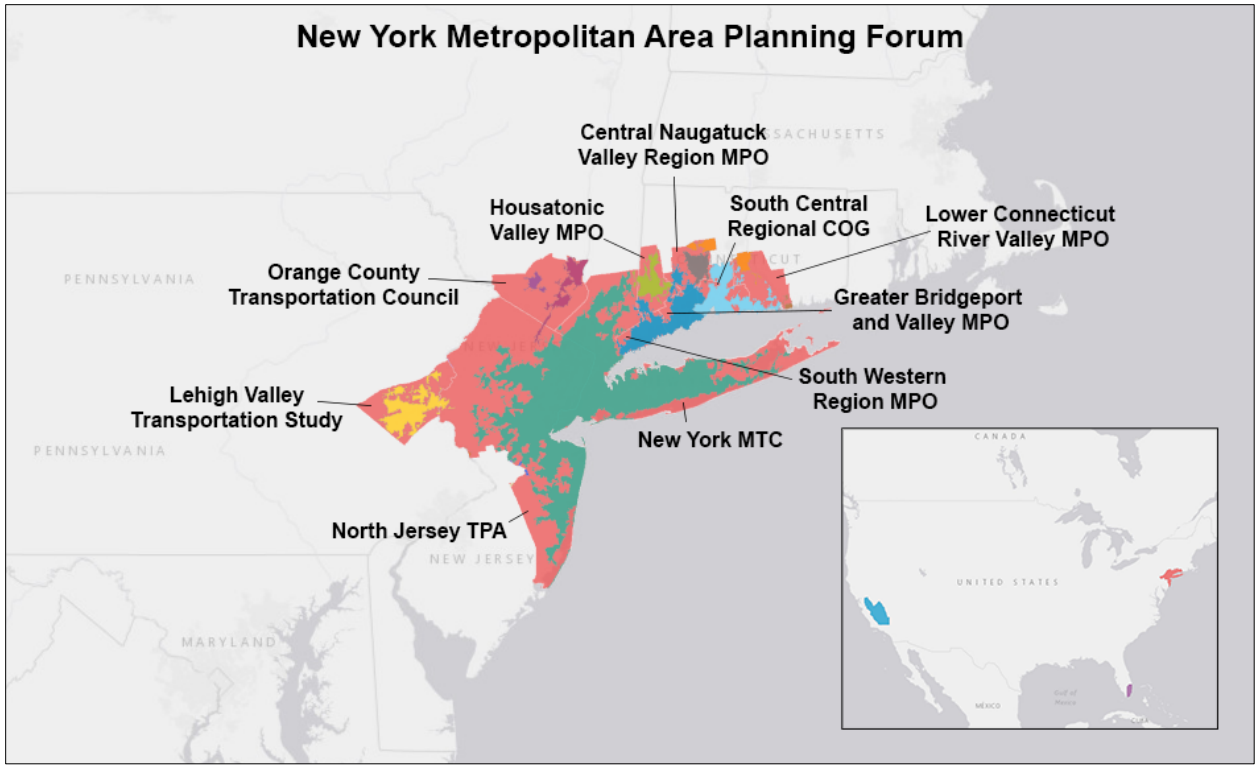
Table 8. Key components of the San Joaquin Valley Regional Policy Council coordination area

MPO	Counties	Planning Area Extent (sq. mi.)	2017 Pop. Est.	UZAs
San Joaquin COG	San Joaquin	1,425	745,424	Stockton; Tracy; Manteca; Lodi
Stanislaus COG	Stanislaus	1,514	547,899	Modesto; Turlock (partial)
Merced CAG	Merced	1,971	272,673	Merced; Turlock (partial)
Madera CTC	Madera	2,152	156,890	Madera
Fresno COG	Fresno	6,016	989,255	Fresno
Kings CAG	Kings	1,391	150,101	Hanford
Tulare CAG	Tulare	4,838	464,493	Visalia; Porterville
Kern COG	Kern	8,161	893,119	Bakersfield; Delano

New York Metropolitan Area Planning Forum

The New York Metropolitan Area Planning (MAP) Forum coordination area comprises parts of New York, New Jersey, Connecticut, and Pennsylvania, with a contiguous combined planning area of more than 10,000 square miles and an estimated population of nearly 23 million residents. The coordination area name refers to a consortium of nine agencies, representing a total of 10 MPOs, committed to cooperative transportation planning and decision-making. This consortium began in 2008 with five MPOs in the New York City metropolitan area and expanded in 2017 to include five additional MPOs.

Figure 4. Constituent MPO planning areas and urbanized areas of the New York Metropolitan Area Planning Forum coordination area (Sources: HEPGIS, Esri, HERE, NPS, Garmin, NGA, USGS, NPS)



According to multiple senior staff members, the MAP Forum MPOs have not, to date, established Forum-wide performance metrics, measures, or targets in response to state or federal requirements or interregional goals. However, subsets of MAP Forum members have coordinated on target setting for PM3 performance measures.

Representatives of multiple MPOs shared the idea that the institutional complexity, as well as wide variation in urbanization and transportation conditions, across the MAP Forum coordination area made it infeasible to establish Forum-wide targets for federally required performance measures. They expressed concern that Forum-wide targets would make it more difficult identify MPO-specific responses to improve local conditions.

Because every MAP Forum MPO planning area contains portions of multiple urbanized areas, subsets of MAP Forum members are coordinating their target setting activities. For example, the New York Metropolitan Transportation Commission, the North Jersey Transportation Planning Authority, the Orange County Transportation Council, and the South Western Region MPO have coordinated PM3 targets with the Delaware Valley Regional Planning Commission (a non-MAP Forum MPO); the DOTs from New York, New Jersey, and Connecticut; and FHWA Divisions from New York and New Jersey (NJTPA 2017).

NJTPA staff members expressed interest in collaborating with other MAP Forum members to develop system performance, reliability, safety, air quality, freight, and asset management metrics. LVPC staff members indicated that transportation agencies across Pennsylvania have coordinated their performance management efforts. The staff members have shared the resultant performance measures with the MAP Forum and are in the process of figuring out the best way to coordinate with other MAP Forum members.

During the MAP Forum's annual meeting in December 2018, the members discussed the prospects of developing Forum-wide measures that would complement existing federal measures. The MAP Forum Work Program also discusses the creation of a Forum-wide dashboard as a communication and data sharing mechanism for performance measures and asset management (2018). Multiple MPO staff members emphasized that the MAP Forum made collaboration on shared performance measures more likely since the necessary collaborators were already at the table.

Table 9. Key components of the New York Metropolitan Area Planning Forum coordination area

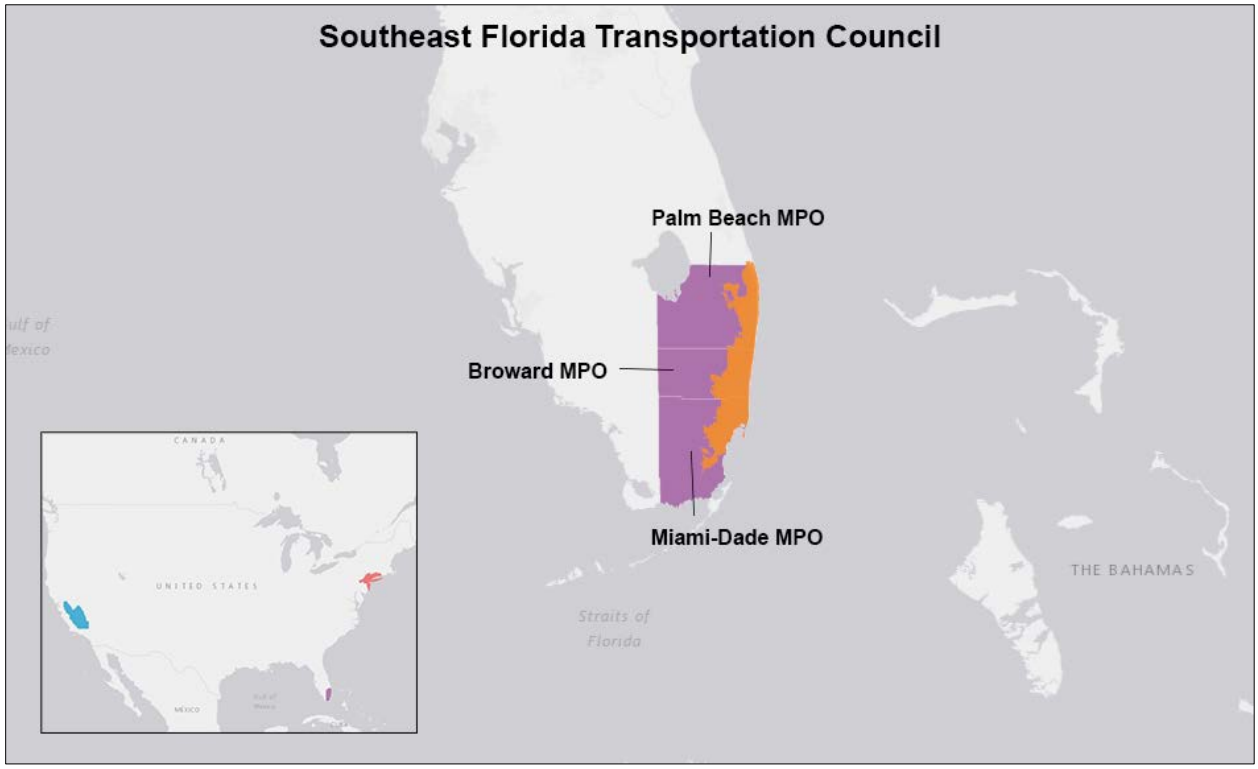
State	MPO	Counties	Planning Area Extent (sq. mi.)	2017 Pop. Est.	UZAs
New York	Orange County Transportation Council	Orange	837	382,226	Middletown, NY; Poughkeepsie-Newburgh, NY-NJ (partial)
New York	New York Metropolitan Transportation Council	Nassau; Suffolk; Bronx; Kings (Brooklyn); New York (Manhattan); Queens; Richmond (Staten Island); Putnam; Rockland; Westchester	2,726	12,893,600	New York-Newark, NY-NJ-CT (partial); Bridgeport-Stamford, CT-NY (partial); Danbury, CT-NY (partial)
New Jersey	North Jersey Transportation Planning Authority	Bergen; Hudson; Passaic; Middlesex; Monmouth; Ocean; Somerset; Union County; Essex; Hunterdon; Morris; Sussex; Warren	4,410	6,800,589	New York-Newark, NY-NJ-CT (partial); Allentown, PA-NJ (partial); Philadelphia, PA-NJ-DE-MD (partial); Twin Rivers-Hightstown, NJ (partial); Trenton, NJ (partial)
Pennsylvania	Lehigh Valley Transportation Study (hosted by Lehigh Valley Planning Commission)	Lehigh; Northampton	725	669,899	Allentown, PA-NJ (partial)
Connecticut	Housatonic Valley MPO (hosted by	Fairfield (partial);	337	230,969	Danbury, CT-NY (partial); Bridgeport-

State	MPO	Counties	Planning Area Extent (sq. mi.)	2017 Pop. Est.	UZAs
	Western Connecticut COG)	Litchfield (partial)			Stanford (partial)
Connecticut	South Western Region MPO (hosted by Western Connecticut COG)	Fairfield (partial)	216	381,901	Bridgeport-Stamford, CT-NY (partial)
Connecticut	Greater Bridgeport and Valley MPO (co-hosted by Connecticut Metropolitan COG and Naugatuck Valley COG)	Fairfield (partial); New Haven (partial)	203	413,771	Bridgeport-Stamford, CT-NY (partial)
Connecticut	Central Naugatuck Valley Region MPO (hosted by Naugatuck Valley COG)	Litchfield (partial); New Haven (partial); Hartford (partial)	363	284,726	Waterbury, CT (partial); Bridgeport-Stamford, CT-NY (partial); Hartford, CT (partial); New Haven, CT (partial)
Connecticut	South Central Regional COG	New Haven (partial)	377	596,467	New Haven, CT (partial); Hartford, CT (partial); Bridgeport-Stanford, CT-NY (partial)
Connecticut	Lower Connecticut River Valley MPO (hosted by Lower Connecticut River Valley COG)	Middlesex; New London (partial)	444	173,196	Hartford, CT (partial); New Haven, CT (partial); Norwich-New London, CT-RI

Southeast Florida Transportation Council

The Southeast Florida Transportation Council (SEFTC) coordination area is comprised of the three southernmost counties in Southeast Florida, with a contiguous combined planning area of more than 5,000 square miles and an estimated population of more than six million residents. The coordination area name refers to a joint policy board established through an interlocal agreement among the three MPOs responsible for planning in the Miami urbanized area (SEFTC ILA 2006). Since 2006, various transportation, environmental, and economic issues have motivated these MPOs and their partners to collaborate on long-range multimodal transportation planning.

Figure 5. Constituent MPO planning areas and the urbanized area of the Southeast Florida Transportation Council coordination area (Sources: HEPGIS, Esri, HERE, NPS, Garmin, NGA, USGS, NPS)



As discussed above, the SEFTC MPOs collaborated with Florida's other 24 MPOs on establishing performance targets for federally required performance measures (MPOAC 2018). However, the Florida DOT (FDOT) subsequently adopted a separate set of performance management directives, and multiple MPO staff members report that SEFTC MPOs are in the early stages of adopting performance measures and targets.

The SEFTC MPOs have adopted two joint LRTPs. The most recent version includes SEFTC-wide goals, objectives, and measures of effectiveness compiled from the MPOs respective LRTPs (SEFTC 2015a). These measures of effectiveness predate the PM1, PM2, PM3, and TAM performance measures described in federal regulations. As an appendix to this plan, SEFTC prepared a technical memorandum on SEFTC-wide goals, objectives, and measures of effectiveness (SEFTC 2015b).

This memo refines goals identified in the previous joint LRTP by gathering performance management guidance material from national, state, and local entities, including the Federal Highway Administration, the Federal Transit Administration, FDOT, the Florida Department

of Economic Opportunity Strategic Plan for Economic Development, and 2040 LRTP Goal and Objectives (preliminary or finalized) for all three MPOs in the region. Finally, it provides potential measures of effectiveness for goals and objectives in the most recent joint LRTP plan, which are informed by FDOT performance measurement activities, the SEFTC Outcomes Assessment Annual Report, technical advisory committee members, and citizen input.

SEFTC used these performance measures to prioritize regional transportation projects (SEFTC 2015a). For the prioritization process, MPO staff rated projects based on criteria developed for each SEFTC-wide goal.

The SEFTC MPOs adopted their most recent individual LRTPs in 2014, prior to the final federal regulations for PM1, PM2, and PM3 performance measures and the SEFTC-wide goals, objectives, and measures. The Miami-Dade MPO and Palm Beach MPO LRTPs feature performance measures included in the joint LRTP. The 2040 Broward MPO LRTP mentions that performance measures are in the works and identifies starting points for performance targets (Broward MPO 2014).

SEFTC collaborated with FDOT to test mobility performance measures on a county level. The process served as a pilot program for measuring select mobility performance measures identified by FDOT. These performance measures are typically calculated and reported at a state level; however, this pilot was the first instance of measuring county performance (SEFTC 2015a).

Table 10. Key components of the Southeast Florida Transportation Council coordination area

MPO	Counties	Planning Area Extent (sq. mi.)	2017 Pop. Est.	UZA
Broward MPO	Broward	1,225	1,935,878	Miami (partial)
Miami-Dade TPO	Miami-Dade	2,020	2,751,796	Miami (partial)
Palm Beach TPA	Palm Beach	1,980	1,471,150	Miami (partial)

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Glossary

Agreement: A document signed by official representatives of two more MPOs specifying roles and responsibilities for their respective organizations. This agreement may be a legally binding compact or contract or it may be a non-legally binding memorandum of understanding (MOU), memorandum of agreement (MOA), or letter of intent.

Collaboration: A joint process of creation.

Collaborative Planning Events: Joint or cosponsored workshops, seminars, summits, visioning exercises, open houses, or other activities that bring together stakeholders beyond MPO policy board or coordinating committee members to discuss interregional issues or to formulate or refine interregional strategies.

Consultation: A process in which one or more parties confer with other identified parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken (23 CFR §450.104).

Cooperation: A process in which two or more parties involved in carrying out the transportation planning and programming processes work together to achieve a common goal or objective (23 CFR §450.104).

Coordination: The cooperative development of plans, programs, and schedules among agencies and entities with legal standing and adjustment of such plans, programs, and schedules to achieve general consistency, as appropriate (23 CFR §450.104).

Interregional: Pertaining to two or more overlapping, adjacent, or proximate metropolitan areas, or MPO planning areas.

Joint Policy Board or Coordinating Committee: A body created to discuss, coordinate, or decide policy of mutual interest to two or more MPOs. A joint policy board or coordinating committee does not replace the statutorily required policy board of any constituent MPO.

Measure: An expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets (23 CFR §450.104).

Metric: A quantifiable indicator of performance or condition (23 CFR §450.104).

Multi-MPO Coordination Area: Two or more adjacent or proximate MPO planning areas with a history of sustained coordination or collaboration between or among MPOs.

Statutorily Defined MPO Work Products or Processes: Federal statutes define the long-range transportation plan (LRTP, also known as the metropolitan transportation plan (MTP) or regional transportation plan (RTP)), the public participation plan (PPP), the transportation improvement program (TIP), and the unified planning work program (UPWP) as essential components of metropolitan multimodal transportation planning. MPOs must develop each of these products through statutorily defined processes. Additionally, MPOs in Transportation Management Areas must develop a congestion management process (CMP). See 23 USC §134 and 23 CFR §450.308.

Target: A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Highway Administration (23 CFR §450.104).