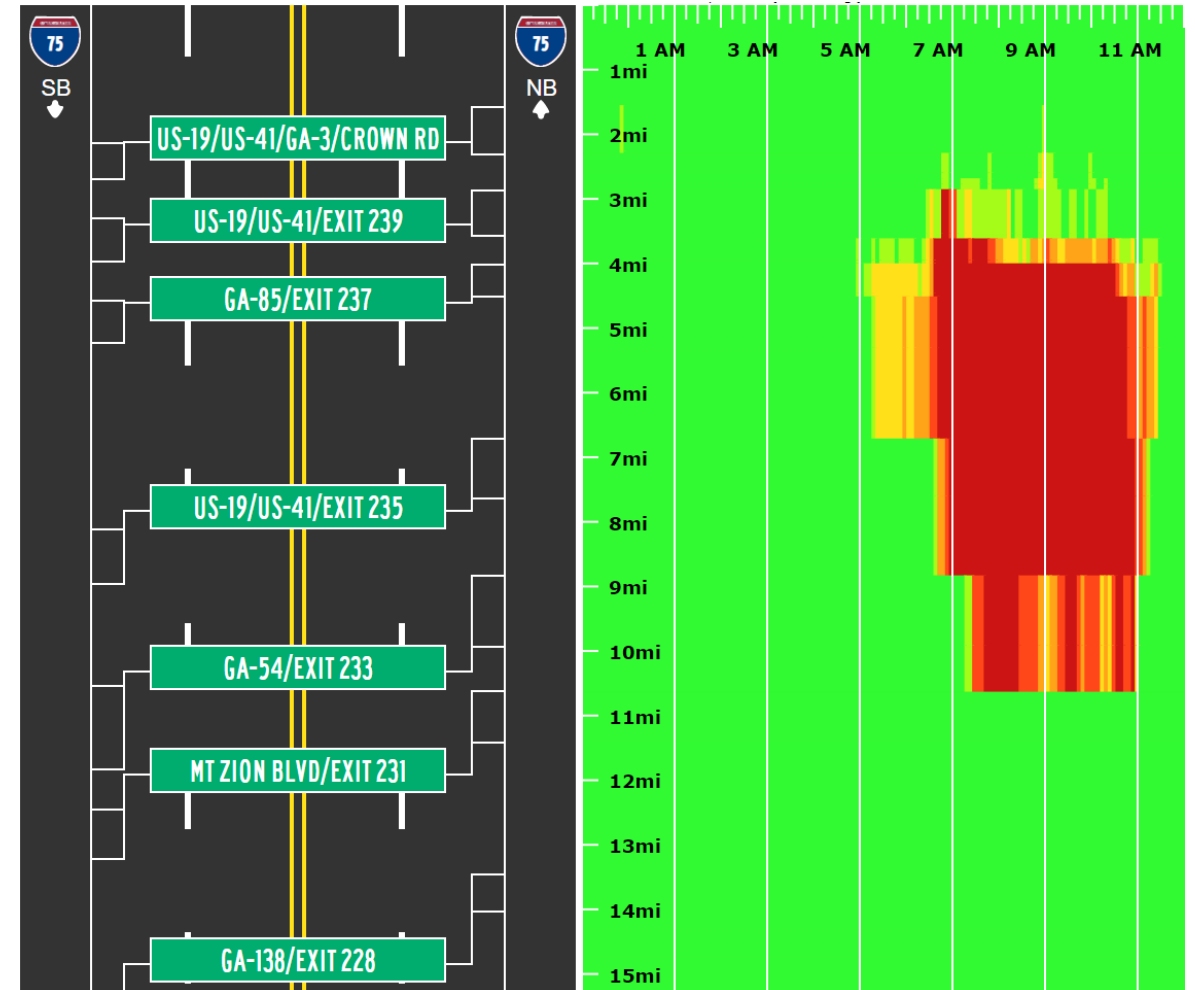




Joint Agency Data Acquisition Program



Data Governance Initiation Process

Step 1. Stakeholder Engagement

*Identify stakeholders
(completed)*

*Develop stakeholder
registry (completed)*

Step 2. Data and Gap Assessment

*Confirm major challenges
based on two workshops*

*Scope initial
data set*

*Assess maturity within
business areas*

*Develop Gap
Assessment*

Step 3. Data Governance Framework

*Develop Data
Governance Charter*

*Establish organizational structure,
roles, and responsibilities*

*Generate and update
principles, policies and
MOUs*

Step 4. Develop Enterprise Data Steward Strategies

*Establish EDS data
working groups*

*Develop data, metadata,
and quality priorities and
standards for each group*

*Identify each group's
goals and performance
measures*

*Develop / publish
Data Catalog by
business area*

Step 5. Develop 5-yr Data Steward Plan

*Each stakeholder develop 5-year plan for
data based on EDS working group scope*

*Establish data
management practices*

*Establish
Performance
Measures*

Step 6 Implement 5-yr Data Steward Plan

*Implement 5-year
data steward plan*



Challenges or Obstacles

- It's never NOT overwhelming
- On-going cataloguing of existing data inventory and future data needs across the key data partners and users
- Development and implementation of a centralized data hub/platform
- Forecasting direct and in-direct costs of all of this, even in the short-term
- Delineating championship roles, by agency or by functional area, especially where there are overlapping needs for the same data
- CV data collection, integration, and dissemination
- Micromobility data access and real-time trip planning (MaaS)



Atlanta Regional Transportation Systems Management and Operations (TSMO) Strategic Plan

Initiative 1: Strengthen TSMO Planning and Institutions

This initiative focuses on establishing and strengthening TSMO institutional structures, including enhancing integration of TSMO into decision making within regional planning, programming, and project development.

Priority Actions:

- 1.1. Establish and sustain a diverse regional TSMO committee.
- 1.2. Demonstrate the value and need for TSMO by making TSMO initiatives and projects more visible to the public and decision makers.
- 1.3. Develop tools and guidance for local agencies and partners to advance TSMO strategies.
- 1.4. Integrate TSMO into local and regional planning and development processes.
- 1.5. Incorporate freight into TSMO planning activities.
- 1.6. Set regional targets and strengthen TSMO project prioritization.

Initiative 2: Enhance Data Sharing and Management

This initiative focuses on enhancing data sharing and management to support enhanced data collection, curation, access and archiving capabilities for improved performance measure analysis and real-time systems management and operations.

Priority Actions:

- 2.1. Establish a long-term regional data governance framework.
- 2.2. Develop a centralized data broker and analytics hub for curated safety and operations data.
- 2.3. Improve/develop data curation and sharing strategies.
- 2.4. Develop data-driven methodologies to assess equity and environmental conditions and impacts of TSMO strategies.
- 2.5. Develop or leverage existing crowdsourced applications.

Initiative 3: Encourage TSMO Innovation

This initiative focuses on establishing mechanisms to promote innovation and research that will spur the next generation of innovative TSMO ideas and lower the risks of testing new concepts. Innovations may include development of new tools, algorithms, methods, and technologies.

Priority Actions:

- 3.1. Share information and develop structures to advance innovative procurement strategies.
- 3.2. Support more efficient design, operations, and maintenance through a focus on analytics/data and automation of processes.
- 3.3. Fund innovative TSMO/technology pilot projects through ARC and/or other agency and private sector funding.
- 3.4. Develop an innovative TSMO solution focused on a particular problem or community issue of regional significance.

Initiative 4: Deploy Connected and Automated Vehicle Technologies

This initiative focuses on the vast potential for leveraging connected and automated vehicle (CAV) technologies to implement innovative strategies.

Atlanta Regional Transportation Systems Management and Operations (TSMO) Strategic Plan

Priority Actions:

- 4.1. Study and share the potential impacts of connected and automated vehicles.
- 4.2. Leverage connected vehicle technologies to improve safety and mobility for all travelers.
- 4.3. Leverage connected vehicle technologies to enhance safety through improved incident response.

Initiative 5: Advance Regional Coordination and Network Communications

This initiative focuses on integration among different systems, communication networks, modes, and organizations to advance regional system performance.

Priority Actions:

- 5.1. Advance Integrated Corridor Management (ICM) systems.
- 5.2. Develop better tools for communications among emergency responders and between event management tools and traveler information outlets.
- 5.3. Modernize the communications network architecture.

Initiative 6: Strengthen Work Zone and Event Management

This initiative focuses on implementing work zone strategies that help improve safety, support collaboration, and disseminate accurate, timely information to travelers.

Priority Actions:

- 6.1. Improve coordination of work zone and special event activities.
- 6.2. Implement smart work zone strategies.
- 6.3. Enhance communications and implement targeted demand management strategies (e.g., incentives) for special event management.

Initiative 7: Enhance Transit Operations

This initiative focuses on implementing TSMO strategies to support access to transit and enhance the convenience, customer experience, and performance of transit.

Priority Actions:

- 7.1. Advance implementation of high capacity premium transit service strategies including transit signal priority.
- 7.2. Develop regional, interoperable transit operations and fare payment systems.
- 7.3. Support local transit agencies in deploying technologies to support better planning, services and communications with customers.

Initiative 8: Advance Mobility as a Service

This initiative focuses on implementing Mobility as a Service (MaaS) strategies that support alternatives to driving alone, including bicycling and walking, use of transportation network companies, and mobility options for first mile/last mile connections to transit.

Priority Actions:

- 8.1. Promote and increase access to safe, affordable and environmentally friendly mobility options.
- 8.2. Develop a mobility platform that includes an integrated, multimodal trip planning and electronic payment and booking system.
- 8.3. Identify opportunities to further incentivize sustainable travel options.

Offering	GDOT Planning	GDOT OTD	GDOT Ops	GDOT Safety	GDOT DP	ARC	SRTA
Detailed Intersection Data							
Lane Attributes							
Road curvature, elevation, roughness							
Truck specific routing and restrictions							
Pedestrian specific routing and restrictions							
Detailed Road Attributes							
Signs, Signals and Warnings							
On-Street Parking							
Bicycle specific routing and restrictions							
Basic Road Attributes							
Roadway Speed Limit							
Dangerous Slow Down API							
Historic Parking							
Traffic Volume Estimates							
Places, Fuel stations, EV Charging Points							
DTM							
LiDar and Panormaix							
Environmental Zones							
Vehicle Regulations							
Historic Trip (OD) data							
Real time Parking							



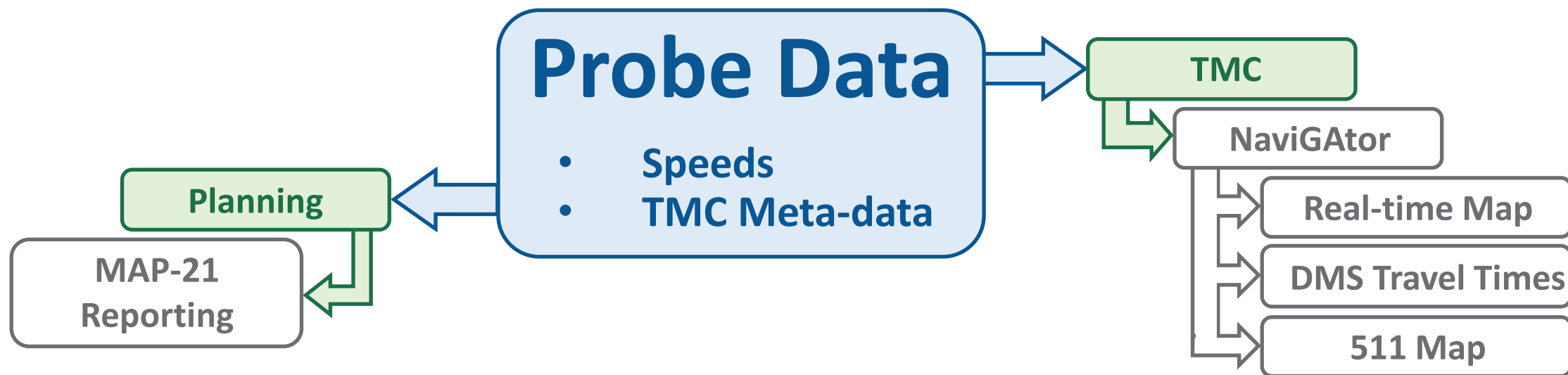
Current (enhancement desired)

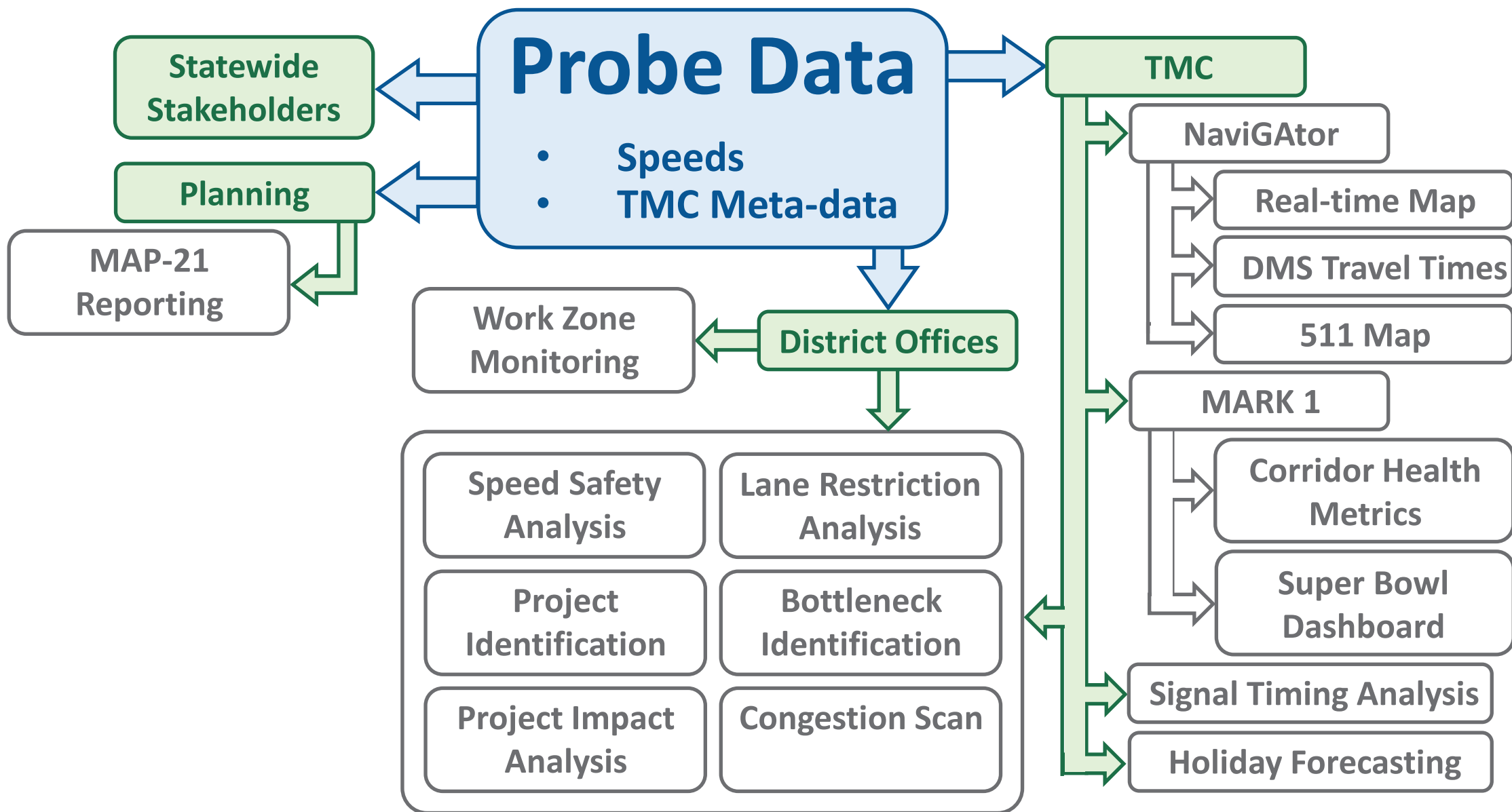


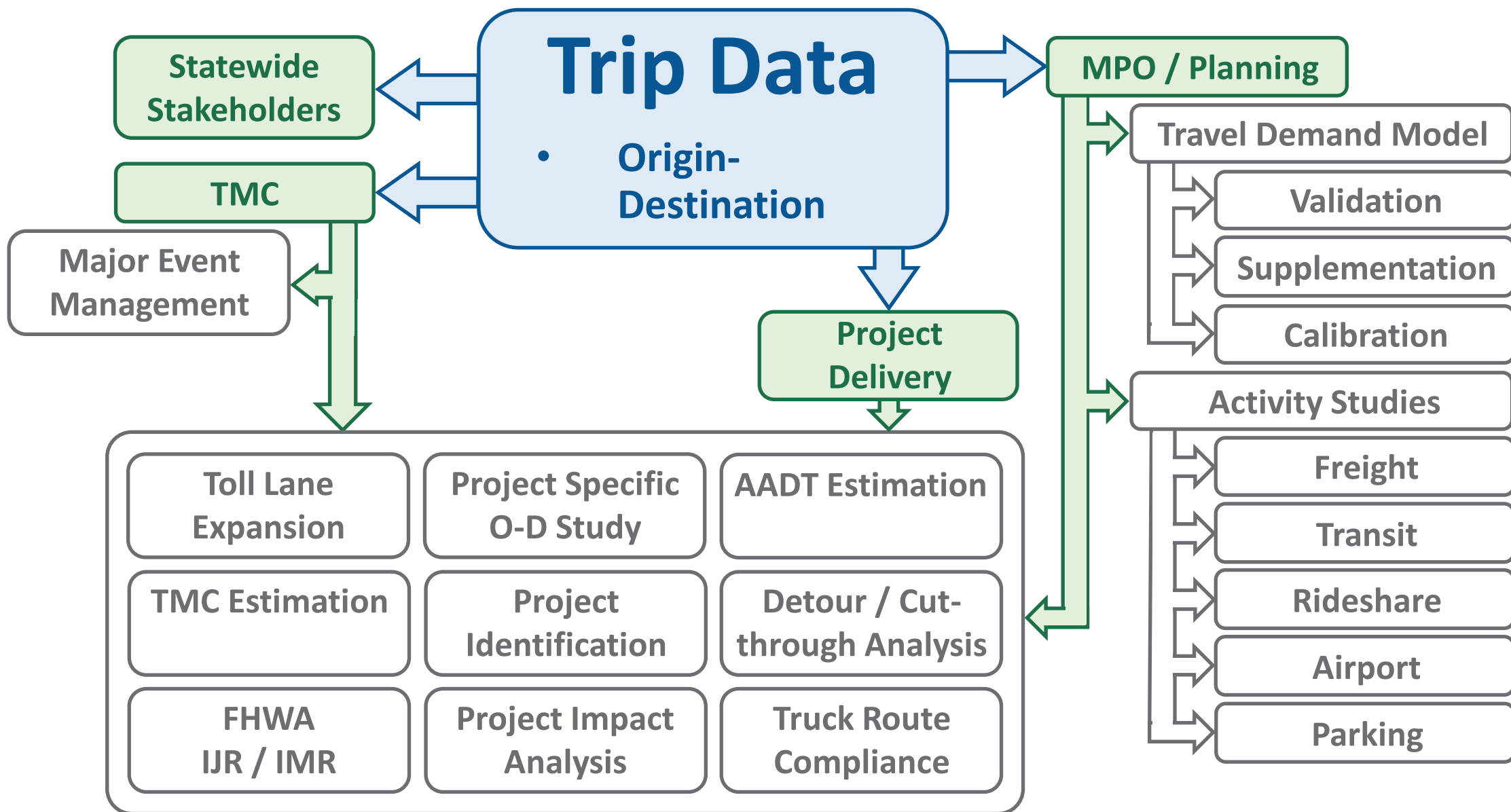
Need



Want







Develop a comprehensive and centralized data acquisition program in order to:

1. Enhance and standardize data analytics capabilities for ALL projects
2. Eliminate unnecessary duplication of data and associated analyses
3. Lower overall agency costs

This Program will be responsible for:

1. Developing an interagency program charter
2. Identifying a funding plan
3. Developing guidelines and/or policy recommendations for data acquisitions



Interoffice Memo

DATE: August 3, 2020

FROM: Andrew Heath, P.E., State Traffic Engineer

TO: Margaret Pirkle, P.E., Chief Engineer & Jannine Miller, Director of Planning

SUBJECT: Joint Agency Data Purchasing Program – Request for Approval to Create Working Group

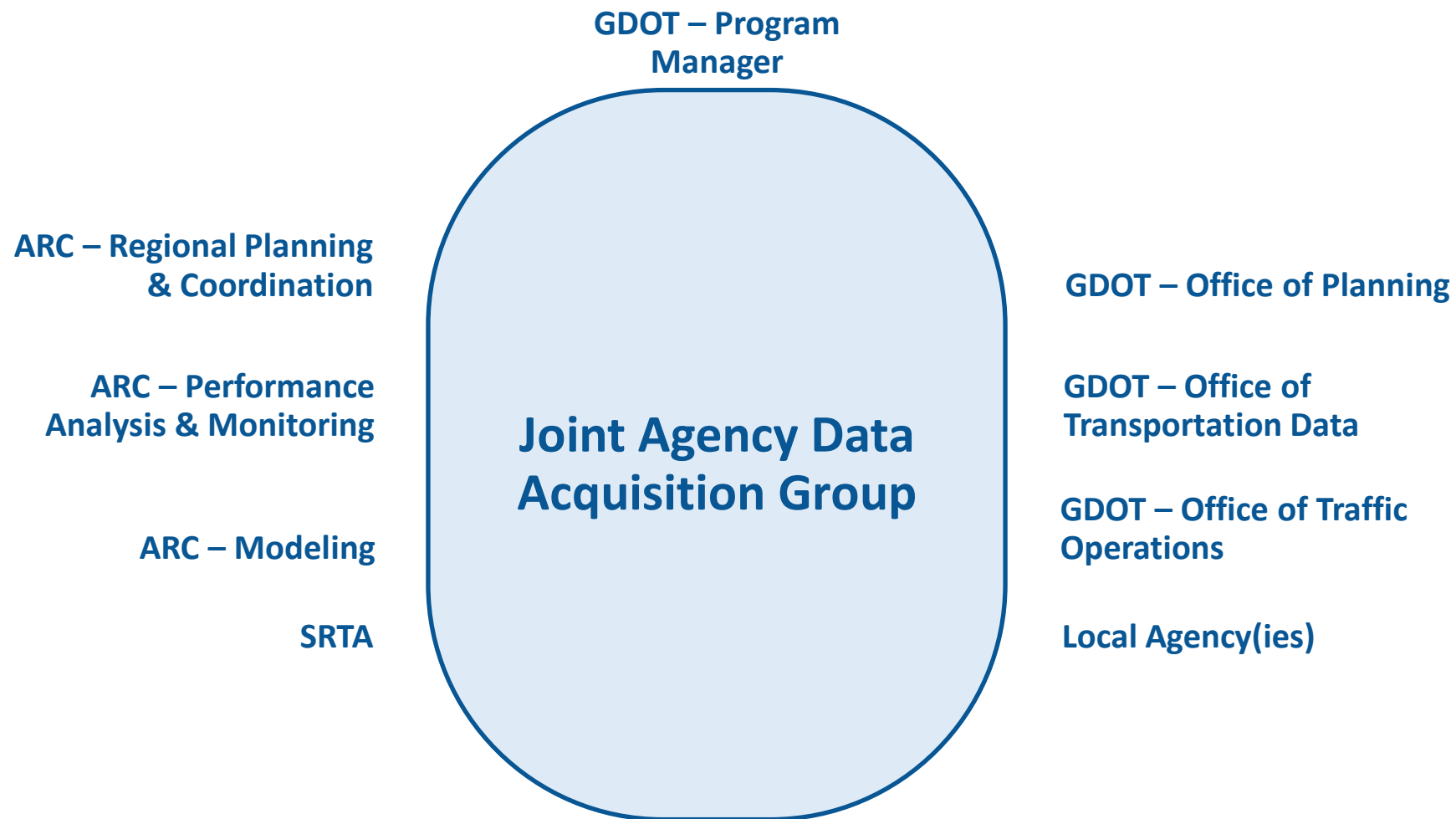
Transportation agencies throughout Georgia have an opportunity to increase planning and engineering efficiencies while reducing financial expenditures by strategically addressing missing, incomplete, and duplicate datasets. In the past five years, third party datasets have matured to a degree acceptable for the purposes of planning, designing, and operating roadways, and these datasets can now be delivered at a fraction of the cost and time of traditional data gathering methods. By moving deliberately to achieve the goals set forth in GDOT's overall mission, ARC's TSMO Strategic Plan, and goals of other partner agencies, there is an opportunity to develop a comprehensive and centralized data purchasing program. The following examples illustrate how other state DOTs and MPOs have benefitted from the development of similar types of programs.

1. MATOC saved \$16.4 million in delay and secondary incidents through cross jurisdictional data sharing
2. NUDOT realized \$1 million in annualized time savings for project analyses
3. MWCOG realized \$450,000 in annualized time savings for reporting requirements
4. NCDOT built a statewide, data-driven capital project prioritization program

Should a comprehensive and centralized joint data purchasing program be developed, GDOT, ARC, and other partner organizations further evaluate a framework for financing its development and ongoing costs through various individual projects. A case study from the New Jersey DOT conservatively estimated that approximately 180 work-hours were saved on each project congestion/mobility report by using enhanced data and analytics software as compared to traditional methods. Assuming a consultant loaded rate of \$150 per hour, the savings equate to approximately \$27,000 per project. Data analyzed from a single consulting firm's direct expenses indicated that each project spends approximately \$4,500 per project on small data acquisition. In FY 2019, GDOT let 326 maintenance and construction projects; should Georgia experience similar savings as New Jersey, over \$10 million will be saved in engineering cost each year.

GDOT and ARC have made significant strides in the past 2 years to consolidate and share data. For example, speed data and the associated analytics platforms were purchased by GDOT's Office of Traffic Operations to replace traditional roadside ITS infrastructure, which lowered per mile maintenance costs by 96%. Recognizing the value of the data and analytics, Traffic Operations

Organization



Current Spend	Proposed Spend	Description
\$0	\$2,000,000	Statewide trip, commercial vehicle, volume estimation, multimodal, and demographics analytics
\$1,100,000	\$1,100,000	Statewide speed, travel time, congestion, user delay cost, and bottleneck analytics
\$300,000	\$700,000	Statewide connected vehicle applications (ex. commercial vehicle safety, dangerous slowdown, hazard warning, and mass messaging alerts)
\$0	\$700,000	Geodata and enhanced roadway attribute (ex. street centerline database and network coding)
\$125,000	\$500,000	Software and data storage enhancements
\$7,371,000	\$0	Excessive Agency Project Cost for Data Analysis and Acquisition
\$8,896,000	\$5,000,000	TOTAL
	\$3,896,000	Estimated Annual Agency Savings

Excessive Agency Project Cost for Data Analysis and Acquisition

Estimated cost of data acquisition and analysis / project

\$4,500	Average cost of data purchased on a per project basis
+ \$27,000	Estimated average cost for excessive person-hours spent on traditional / non-standardized data analyses per project
\$31,500	Total

Estimated annual cost for GDOT across all projects

\$31,500	Estimated cost of data acquisition and analysis / project
x 234	Forecasted number of let projects in FY '22 as January 2021
\$7,371,000	Total

Additional Benefits

1. Data-driven ability to deviate from standards to create more practical, location-specific, and cost-effective designs.
2. Uniform data analysis capabilities, regardless of project size or budget.
3. Enhanced capabilities for project justification and visualization during public forums.
4. Direct cost savings for all statewide local agency partners as related to local-let projects.

“Even after we had developed the Congestion Management Process (CMP) and Travel Demand Model (TDM) we knew the data was limited. We needed enhanced data to infill the TDM. We needed enhanced data to infill the CMP. We were able to do that with a third-party trip dataset.

“Once we had the data in hand, we got to ask ourselves a new question, ‘What else can we do now that we couldn’t do before?’”

– Mason Perrone, Rhode Island DOA

Matthew Glasser, PE

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