



Performance Monitoring

2017

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INTRODUCTION

Atlanta's Transportation Plan is the access strategy for Atlanta City Design. The Plan is divided into a concise final report and a series of detailed technical appendices. The final report summarizes Atlanta's Transportation Plan in an easily digestible manner using infographics, maps, and images and is intended for the general public and elected officials. The technical memorandums are intended for planners, City staff, and implementation partners that require a higher level of detail.

As part of Atlanta's Transportation Plan, this technical appendix focuses on development of a performance monitoring and tracking system. This document provides an overview of the existing performance metrics in use for project selection and project evaluation and provides a series of best practice case studies of systems other cities have in place. Finally, the document presents a series of recommendations and action items for Atlanta city staff to consider with the development and implementation of the Atlanta's Transportation Plan.

BACKGROUND

Performance monitoring and reporting is an essential component of transportation planning and programming. The Federal Highway Administration (FHWA) defines performance-based planning as, "a data-driven, strategic approach, providing for public and stakeholder involvement and accountability, in order to make investment and policy decisions to attain desired performance outcomes for the multimodal transportation system."¹

Comprehensive performance-based planning is much more than just the process of selecting and applying performance measures. The process includes setting a strategic direction ("where do we want to go?") built on a foundation of data from monitoring and evaluation of system performance ("where are we now?"), followed by analysis of how the region will move toward achieving its goals through investments and policies ("how are we going to get there?").

A comprehensive performance-based plan includes the following elements:

- Baseline data about the transportation system
- A statement of goals and objectives
- A set of performance measures to compare alternative strategies and track progress over time
- Desired trends or targets (that is, the intended direction of change or a specific numerical target)
- Forecasts of future conditions or needs

¹ "Performance-Based Planning and Programming Guidebook," September, 2013, FHWA website, accessed 3/9/17: https://www.fhwa.dot.gov/planning/performance_based_planning/pbpp_guidebook/page09.cfm

- Policies, strategies, and investments that will support attaining the desired trends or targets
- Understanding of financial strategy for implementation
- A framework for measuring and reporting progress over time

This approach offers the City of Atlanta a methodology to routinely track and report the results of transportation investments and policies, and use that information to make more informed decisions in the future. On-going data collection, evaluation, and reporting can build support for further investments with the public by increasing their understanding of various approaches and of what works within different contextual constraints and conditions. Regions that have undertaken performance-based planning and monitoring have seen the following benefits:

- **Better informed decisions.** Less money is wasted on things that are proven not to work. Enhanced understanding of system performance and which strategies have been effective and why can inform adjustments to projects and programs based on results
- **Transparency.** Reporting performance provides justification for programming/projects that work, allowing for a better use of limited resources and allowing decision makers and the public to see where funding is going, why, and how it's performing.
- **Better investments.** Armed with on-going performance data and reporting, agencies can demonstrate the long-term cost savings of quality infrastructure investments and highlight how this can prevent high cost repairs in the future. The City can determine whether objectives have been met through target attainment and support reexamination and refinement of objectives and targets based on the results.

With a greater understanding of system performance, the City of Atlanta can make better use of the limited financial resources to make decisions about projects that will have the greatest impact in achieving the community's stated goals.

EXISTING CONDITIONS

Together, Atlanta's Transportation Plan and the Streets Atlanta Design Guide provide a framework for performance monitoring of transportation projects and investments in the City. With these plans detailing the vision, the City now has the opportunity to establish a citywide performance monitoring, reporting standard, or policy to begin the process of tracking investments, analyzing data, and reporting results. This will provide Atlanta with the ability for future "dashboards" to then report progress toward achievement of that vision. Presented below are the performance evaluation and metrics from each plan.

RENEW ATLANTA EQUITY CHECKLIST

It is the City of Atlanta's intention to be A City For Everyone. Implementation of the Renew Atlanta and TSPLOST programs offer one of the most significant opportunities to realize that intention in the design of projects. While employment and business opportunities can be captured in the City's Office of Contract Compliance programs, City staff are using the following checklist to ensure project design and implementation support community goals.

For each Renew Atlanta project an equity document will be prepared with the following topic areas.

1. Are there schools in the vicinity? If so, which ones and how will this project improve mobility and accessibility?
2. Are there special needs populations in the area and how will the project design accommodate those and enhance connectivity?
3. How does the project design enhance security for all through lighting, median breaks or turnarounds or other measures as applicable?
4. How does the project design serve land uses or economic development projects as noted in the City's Comprehensive Plan/City Transportation Plan or Invest Atlanta coordination?
5. How is pedestrian movement and safety enhanced?
6. How is cycle movement and safety enhanced?
7. Is there transit service in the area? How does the project enhance the connection?
8. How are youth populations served?
9. How are senior populations served?
10. How are economically disadvantaged communities better connected to employment areas/centers?
11. Improved access to health care?
12. Improved access to educational facilities?

13. Will wayfinding be incorporated to enhance visitor experience?
14. How will community outreach be adapted to innovatively reach all?
15. Specific language access measures in outreach and design?
16. How is the network connectivity enhanced through the project?
17. How is stormwater management addressed? (Department of Watershed Management)
18. How is sustainability specifically addressed?

EVALUATION OF PROJECT PERFORMANCE

The draft Streets Atlanta Design Guideline for Active, Balanced, and Multimodal Streets, frames out an implementation strategy to evaluate built project performance.

Strategies for Implementation

Don't just build a project: evaluate it. For example, a 30 percent increase in people walking, 20 percent more bicyclists, a reduction in vehicle speeds of 7 mph, 120 column inches of positive newspaper coverage, and other metrics can validate the project and build support for similar projects. Use other performance-based measures to evaluate success not only of the project, but also of the public process that led to it. Evaluations can assess the assumptions and the planning processes that lead to changes. Assessment of the planning process includes evaluations of how well the project performed.

Performance Metrics

- Did the project meet the commonly-held community vision?
- Important projects that benefit all members of the community are the first to be built. Did those built reflect the community's priorities?
- Did the project provide long-term benefits to all people?
- Did the process allow for adequate time to respond to plans?
- Were there any legal actions or complaints about the public process that could have been reduced or eliminated?
- How can the public process improve?

Reporting/Opportunity

The project performance metrics outline the City's objectives for successful transportation projects. This could be built upon to include adopted qualitative and quantitative metrics for analysis and standards for reporting. The reporting component could enhance transparency on infrastructure investments and either justify reprioritization of improvement efforts or justify continued funding and implementation of high performing projects, programs, and policies.

FOCUS ON RESULTS

The Mayor's Office of Innovation Delivery and Performance also contains the Focus on Results (FOR) Atlanta program, formed in 2013. This unit serves as the City's performance management program, charged with delivering tangible and lasting improvements across City services. The FOR Atlanta Team works in close collaboration with departments to track key performance indicators and identify opportunities to improve service efficiency and quality through data-driven decision-making, business process efficiencies, organizational strategies, and technology applications. This institutional resource on performance metrics and tracking could support additional performance management systems for transportation. The DataAtlanta Portal may also support some of the transparency and open data components of such programs.

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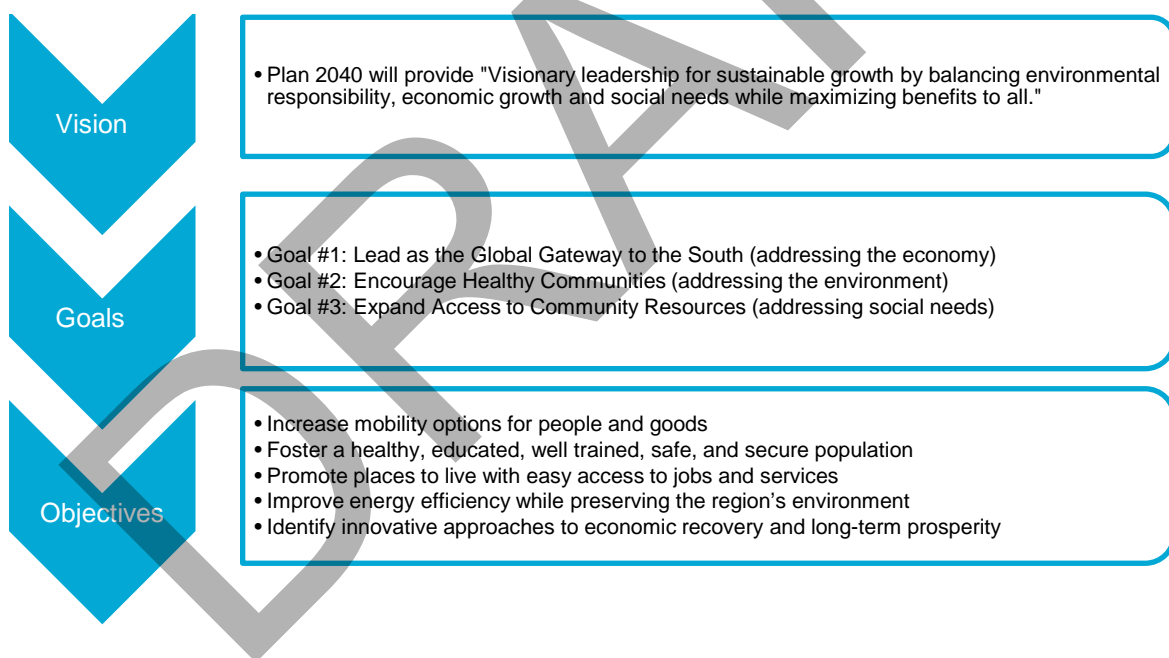
BEST PRACTICES

CASE STUDIES

Atlanta Regional Commission: Goals and Objectives

The Atlanta Regional Commission (ARC) is the regional planning and intergovernmental coordination agency for the 10-county area including Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties, as well as the City of Atlanta. In addition, it serves as the federally-designated Metropolitan Planning Organization (MPO) for the 19-county Atlanta region.

ARC has excelled in ensuring its vision, goals, objectives, and evaluation measures are all related to one another and that the stated objectives guide plan development and performance measurement activities. The Vision, Goals, and Objectives of the Plan 2040 long range plan are:



ARC relies on these stated objectives to make resource allocation decisions tied to the long-term goals. The Regional Transportation Plan (RTP) emphasis areas correspond to the long-term plan objectives:

1. Congestion/Mobility: Measured as the Weighted Maximum Travel Time Index (ratio of congested travel time over free-flow travel time)
2. Safety: Injury and Fatality Crash Rate (injury and fatality crashes per 100 million vehicle miles traveled)

3. Employment Accessibility: Measured as an Accessibility Ratio (percent of all vehicle trips that originate or are destined to one or more UGPM major activity centers)
4. Travel Demand: Measured as the Average 2010 Weekday Traffic Volume

The ARC process clearly ties agency vision, goals, and objectives through to specific RTP performance-based planning emphasis areas. The stated objectives are both aspirational and specific provide a strong foundation for the subsequent project prioritization process. ARC has organized project selection into three “Key Decision Points” (KDP) aiding in jurisdictional understanding of the process as well as streamlining the number of analysis steps.

Chicago Metropolitan Agency for Planning: Evaluation Metrics and Measures

Created in 2005, the Chicago Metropolitan Agency for Planning (CMAP) is the metropolitan planning organization (MPO) for the northeastern Illinois counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP is a leading agency with both evaluation metrics and measures (particularly with regard to congestion measures) and using innovative data visualization techniques to engage the public with reporting and monitoring performance measures.

The regional mobility component of the [CMAP GO TO 2040 Plan](#) includes three goals, each with associated performance targets, a list of major capital projects, and funding scenarios.² Goals linked to their targets are:

- Invest Strategically in Transportation
 - Target: 65% of principal arterials are acceptable ride quality by 2015; 90% by 2040
 - Target: 70% of bridges in “not deficient” condition by 2015; 80% by 2040
 - Target: Increase efficiencies in the highway network to the point where we maintain our level of congestion today (1.8 million congested hours) even with 2.4 million more residents by 2040.
- Increase Commitment to Public Transit
 - Target: 2.3 million transit riders per weekday by 2015; 4.0 million by 2040
 - Target: 69% of residents and 77% of jobs are accessible by transit by 2015; 75% of residents and 80% of jobs by 2040.
- Create a More Efficient Freight Network
 - Target: Complete an additional 10 out of 31 remaining CREATE projects by 2015; and complete all 71 CREATE projects by 2030.
 - Target: reduce railroad grade crossing delays by 10,000 hours/weekday by 2015; 5,500 hours/weekday by 2040.

² <http://www.cmap.illinois.gov/about/2040/regional-mobility/invest-transportation>

As part of CMAP's Congestion Management Process, select performance measures for the regional freeways have been created from five-minute speed data obtained from the Illinois Department of Transportation (IDOT) and Traffic.com. The Chicago region traffic congestion scans were created by averaging five-minute speed data obtained from freeway loop detectors and mobile technology data. The traffic scans display average speed on a freeway corridor as a function of time of day (the x-axis) and location (the y-axis) along a freeway corridor.

- The travel time index is a measure of average congestion and indicates the average extra travel time required during peak period congestion. Travel time index is a ratio of the average peak-period travel time compared to the free-flow travel time. For example, a value of 1.20 means that average peak travel times are 20 percent longer than free-flow travel times.
- The planning time index is a measure of reliability and is defined as the ratio of the total time needed to ensure a 95 percent on-time arrival to the free-flow travel time. For example, a value of 1.4 means that, to arrive on-time 95 percent of the time, a traveler should budget an additional eight minutes for a trip that takes 20 minutes during off-peak, free-flow conditions.
- Congested hours are an indication of how many hours per day a facility is congested. Technically, "congested hours" are defined as the average number of hours in which at least 20 percent of the vehicle miles traveled (VMT) on the instrumented segment is congested. For this measure, congestion is defined to occur when link speeds are less than 50 mph.

CMAP also has an Expressway Atlas to engage the public with performance management for the region. The Atlas is a desktop reference with system data, daily and monthly factors, AADT tables, hourly percent tables, and detailed traffic flow graphics. The 2014 Update includes updated graphics of the link-by-link and ramp-by-ramp traffic volume estimates using highly detailed corridor-level drawings. The agency also prepares interactive [mobility visualizations](#) allow users to explore data on metropolitan Chicago's transportation system, including road, transit, and freight networks, with engaging data visualizations.³

San Diego Association of Governments: Evaluation Metrics and Measures

The San Diego Association of Governments (SANDAG) encompasses 18 cities and counties along the Pacific Coast and California's border with Mexico. TransNet, is the county's half-cent sales tax for transportation improvements, adopted in 1988, that provides dedicated funding to SANDAG for transportation projects. To keep the public informed on the status of TransNet projects SANDAG created the TransNet Dashboard, which provides up-to-date schedule, budget, and expenditure information.

³ <http://www.cmap.illinois.gov/mobility/explore#/>

SANDAG's 2050 Regional Transportation Plan (RTP) was adopted in 2011, and proposes an estimated \$214 billion of local, state, and federal transportation funds over the next four decades. Funding for transportation projects in the RTP are focused on initiatives that address regional mobility needs. The RTP's goals are to achieve innovative mobility and planning, vibrant economy, and healthy environment and communities. The vision for SANDAG's 2050 RTP is threefold:

- Support a prosperous economy
- Promote a healthy and safe environment and provides a higher quality of life (including climate change protection)
- Provide better links to jobs, homes, and major activity centers via transit, walking, and biking

The plan describes six critical goals for the 2050 RTP, which draw from the plan's three thematic goals and overarching policy objectives: mobility, reliability, system preservation and safety, social equity, healthy environment, and prosperous economy. Within each goal area, specific performance measures are compared between the existing (2008) transportation conditions, a 2050 no-build scenario, and the revenue constrained 2050 RTP; in total, 23 performance measures are used (many of which are subdivided by more nuanced metrics).

The 2050 RTP employs a multitude of performance measures and metrics to gauge the plan's progress toward achieving policy goals and objectives. The two overarching themes guiding the performance measures are: quality of travel and livability, and sustainability. Metrics included evaluate goods, movement, transportation investment, social equity, environmental impacts, and the relationship between land use and transportation. Average travel time in peak periods is also calculated for specific corridors and across multiple screen lines. Complex modeling estimating "user benefits" and generalized travel costs were also analyzed. Project evaluation criteria for highways and transit are included on the following page.

FIGURE 1: PROJECT EVALUATION CRITERIA: HIGHWAY CORRIDORS

Goal	Criteria	Total Percent
Innovative Mobility & Planning	<ul style="list-style-type: none"> ▪ Provides congestion relief ▪ Project safety ▪ Provides access to evaluation rates ▪ Facilitates FasTrak/Carpool/Transit, Pedestrian and Bicycle Mobility 	35
Healthy Environment & Community	<ul style="list-style-type: none"> ▪ Minimizes habitat and residential impacts ▪ GHG and pollutant emissions ▪ Serves RCP smart growth areas ▪ Physical activity 	30
Vibrant Economy	<ul style="list-style-type: none"> ▪ Accessibility ▪ Serves goods movement and relieves freight system bottlenecks/capacity constraints ▪ Project cost-effectiveness 	35

FIGURE 2: PROJECT EVALUATION CRITERIA: TRANSIT SERVICES

Goal	Criteria	Total Percent
Innovative Mobility & Planning	<ul style="list-style-type: none"> ▪ Provides time competitive/reliable transit service ▪ Serves daily trips ▪ Provides access to evaluation rates ▪ Daily system utilization 	35
Healthy Environment & Community	<ul style="list-style-type: none"> ▪ GHG and pollutant emissions ▪ Serves RCP smart growth areas ▪ Physical activity 	30
Vibrant Economy	<ul style="list-style-type: none"> ▪ Accessibility ▪ Project cost-effectiveness 	35

Metropolitan Transportation Commission (MTC): Measurement of Performance

The Metropolitan Transportation Commission (MTC) was established in 1970 by the California state legislature and functions as both a regional transportation planning agency and the metropolitan planning organization (MPO) for the nine-county San Francisco Bay Area. The MTC is a regionally focused organization that serves multiple jurisdictions containing densely populated, interconnected, transit-dependent cities and municipalities. Operating within this regional context, the MTC works to prioritize and finance the region's transportation plans and policies.

The MTC's project-level performance assessment framework involves qualitative project-level target assessments and quantitative project-level benefit-cost assessments for both land use patterns and transportation projects. For Plan Bay Area, transportation projects were screened through two processes. Initially, projects were evaluated qualitatively to determine whether the project would implicitly help the MTC reach its goals, and therefore warranted inclusion in the plan; for this assessment projects were scored between -10 (strongly adversely impacting targets) to +10 (strongly supporting all targets). Secondly, projects deemed "major capacity-increasing" (total costs exceeding \$50 million and/or featuring regional impacts) were evaluated quantitatively with a model-based methodology to determine the benefit-cost ratio, both to users and society. Projects were then categorized by benefit-cost performance into four tiers: low, medium-low, medium-high, and high. Projects rated as high-performing were prioritized for regional funding in Plan Bay Area, medium-performing projects were referred to county congestion management agencies (CMAs) for further review, and low-performing projects were both reviewed further and required defense from project sponsors to earn inclusion in Plan Bay Area.

In 2010, the MTC identified seven performance categories that guide performance targets and policies for Plan Bay Area, the region's long-term transportation plan: climate protection, adequate housing, healthy and safe communities, open space and agricultural preservation, equitable access, economic vitality, and transportation system effectiveness. Within these categories, affordable housing, public health, and economic vitality performance measures are emphasized.

FIGURE 3: METROPOLITAN TRANSPORTATION COMMISSION PERFORMANCE CATEGORIES AND TARGETS

Goal/Outcome	Target
Climate Protection	<ul style="list-style-type: none"> ▪ Reduce per-capita CO2 emissions from cars and light-duty trucks by 15%
Adequate Housing	<ul style="list-style-type: none"> ▪ House 100% of the region's projected growth by income level (very-low, low, moderate, above-moderate) without displacing current low-income residents
Healthy and Safe Communities	<ul style="list-style-type: none"> ▪ Reduce premature deaths from exposure to particulate emissions: Reduce premature deaths from exposure to fine particulates (PM2.5) by 10%, reduce coarse particulate emissions (PM10) by 30%, and achieve greater reductions in highly impacted areas ▪ Reduce by 50% the number of injuries and fatalities from all collisions (including bike and pedestrian) ▪ Increase the average daily time walking or biking per person for transportation by 70% (for an average of 15 minutes per person per day)
Open Space and Agricultural Preservation	<ul style="list-style-type: none"> ▪ Direct all non-agricultural development within the urban footprint (existing urban development and urban growth boundaries)
Equitable Access	<ul style="list-style-type: none"> ▪ Decrease by 10% the share of low-income and lower-middle income residents' household income consumed by transportation and housing
Economic Vitality	<ul style="list-style-type: none"> ▪ Increase gross regional product (GRP) by an average annual growth rate of approximately 2%
Transportation System Effectiveness	<ul style="list-style-type: none"> ▪ Increase non-auto mode share by 10%, and decrease automobile vehicle miles traveled per capita by 10% ▪ Maintain the transportation system in a state of good repair: Increase local road pavement condition index (PCI) to 75 or better, decrease distressed lane-miles of state highways to less than 10% of total lane-miles, and reduce share of transit assets past their useful life to 0%

APPLICATION OF BEST PRACTICES

The broad performance monitoring and reporting areas described below are examples of some of the ways Atlanta could measure and use data to deliver a robust performance-based planning program. Ideally, a program covers more than one of these areas. The case studies below introduce how transportation agencies have approached successful implementation of performance-based planning across these board areas.

- **Goals and objectives.** Many transportation plans share a similar vision. What distinguishes individual plans are the goals, which reflect the values of a region, and the objectives - the specific actionable focus of investment. Measurements and evaluation criteria are derived from adopted goals and objectives; however, these relationships are not always clearly defined or universally understood by all stakeholders.
- **Targets, criteria, and metrics.** We achieve what we measure. A number of different measures may be used to assess objectives. For example, congestion reduction may be measured by total travel time, travel time reliability, vehicle throughput, or person throughput – each of which relates to a subtly different understanding of the desired objective. The Fixing America's Surface Transportation (FAST) Act requires a more performance-based planning approach that sets metrics and targets for transportation investment priorities.
- **Evaluation and assessment.** Equally important is how measures are used in the evaluation of an overall regional program and selection of projects across the various phases of program development, multiple modes, and project types.
- **Performance and outcomes.** Planning is largely focused on assessing projects and programs against a desired future state, generally using forecasts of expected outcomes. Performance measurement, however, is empirical observation of actual outcomes. While still conceptual in many regions, processes and protocols for post-investment performance measurement and feedback loops back into program evaluation criteria are recognized as a desired practice to assess and calibrate the metrics and tools used for project evaluation and selection.
- **Public engagement.** Effective stakeholder engagement can be difficult in large planning processes. Visualization tools, public dashboards, and other data reports to provide the public with timely and engaging information on performance measures and progress against stated targets.
- **Transportation innovation.** Transportation technology and services are rapidly evolving. A number of these changes could have profound impact on transportation demand and the efficacy of certain infrastructure projects. As with performance measurement and post-project assessment, anticipation of disruptive innovations in transportation and incorporation of this eventuality into the project/program evaluation and selection process remains an emerging practice.

RECOMMENDATIONS

With Atlanta's Transportation Plan, the City of Atlanta has the opportunity to refocus efforts on system performance monitoring and reporting. Building on momentum created through previous planning efforts such as Connect Atlanta and Streets Atlanta, this plan can put in place implementable and actionable strategies to achieve the City's goals.

RESPONSIBLE PARTIES

Citywide transportation planning is currently conducted by the Department of Planning and Community Development, while project programming and construction is done within the Department of Public Works. Together, these two offices share responsibility for transportation performance monitoring and should work together to ensure planning, programming, and monitoring are coordinated.

It should be the responsibility of the Department of Planning and Community Development to:

- Determine citywide planning goals and outcomes
- Establish targets and performance metrics
- Track citywide progress toward goals
- Report on progress toward goals.

The Department of Public Works will complement these actions by:

- Collecting and assessing data on system needs
- Developing and prioritizing project lists
- Conducting before and after data collection studies
- Reporting on project timelines and status.

PROJECT SELECTION PROCESS

Needs Assessment/ Screening

It is envisioned that the data for the needs analysis would reside in a GIS format that could be queried in order to develop annual project lists. Data elements would include:

- **Pavement condition (PASER rating).** This common metric is used to determine the pavement condition on a road segment.

- **Crash location and severity (and other safety considerations).** Safety projects needed to address unsafe conditions can be identified through a data driven assessment of the location and severity of crashes for the past 3 years. Other considerations may include demonstrations of excessive or incompatible speeds.
- **Connectivity.** This metric will indicate if a project segment provides a missing link in the multimodal network or provides access to community amenities like parks, schools and retail districts. This will be measured by buffering around key public amenities and existing bicycle and pedestrian facilities to determine where opportunities might lie.
- **Public Input.** Citizen requests for projects should also be considered in the project selection process. Complaint-driven/public responsiveness can perhaps be a lower factor, but should be an input.

Using these data points, the City can develop a list of road segment locations that should be considered for transportation improvements.

Project Assembly

The second phase in the project assessment process starts with the segments that were identified in phase one. Where possible, candidate segments will be grouped into logical projects – some of which will be several block lengths, but more of which will be one or two blocks or even portions of a block.

The project identification will consider other qualitative factors, such as increasing the project area to be longer in order to fill some necessary gap in the multimodal network or adding additional blocks to a project in order to minimize impacts on local residents or business.

Qualitative Assessment and Prioritization

In addition to the data screening used to locate street segments and assemble them into viable projects, the final phase is a prioritization process that will balance available funding with the needs of different multimodal network users. This phase will be sensitive to the qualitative features of different project types by considering the following factors:

- **Project Complexity.** The City has limited resources to design and contract projects each year, so balance should be sought between projects that can be done relatively quickly and those that may require more complex engineering or public engagement.
- **Cost.** Similarly, Atlanta has a limited budget for transportation projects and should consider available funding needed to complete projects when making funding decisions. Reconstruction projects may be costlier than rehabilitation projects. The right type of maintenance must be done at the right time in the life of a facility to avoid shortening facility life and requiring costlier maintenance sooner.

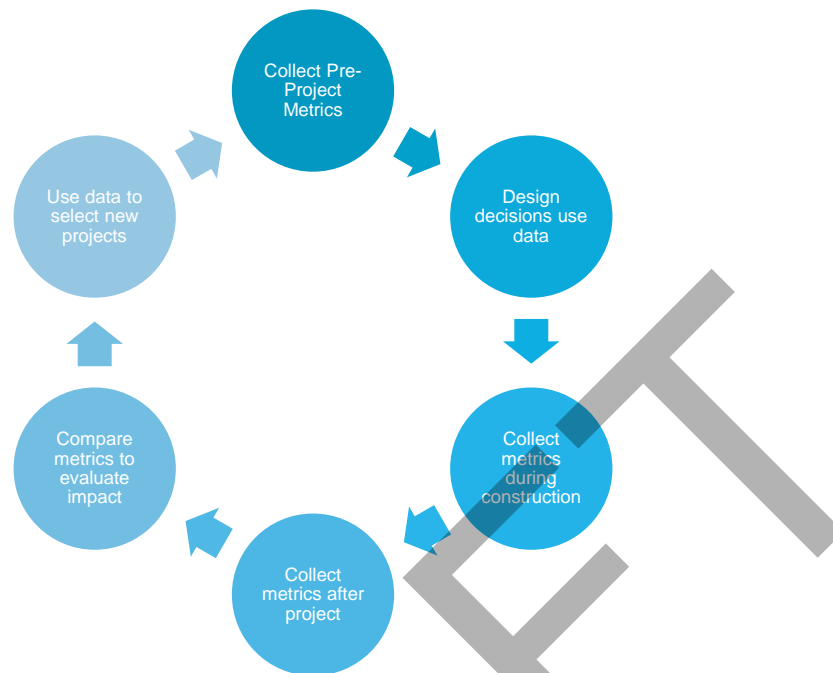
- **Geographic Equity.** All parts of Atlanta have mobility needs and projects should be distributed across the City. However, there may be economy of scale in having small projects grouped together or in prioritizing projects in traditionally disadvantaged areas. Maintenance of traffic should also be considered in project selection to ensure the continued safe flow of travel around the City even during construction season.
- **Mode Equity.** Finally, the project selection process should balance having a good distribution of bike, pedestrian, transit and vehicle-oriented investments to ensure multimodal progress is being made in all areas.

PROJECT PERFORMANCE METRICS

By focusing on the goals community members want to see for their streets, the City can better reflect resident needs and report on projects that meet their stated goals. Traditional transportation performance measures are not suited to measure progress towards these goals. Usually auto-centric and focused on peak periods, they do not measure how the street is performing across all modes and all times of day. The most common metric used in traditional transportation studies is Level of Service (LOS), which is a qualitative measure of vehicle speeds. Because the metric seeks to maintain a steady flow of vehicles, it often leads to widening streets and intersections, removing on-street parking, and other strategies to accommodate traffic. These techniques undermine the goals and principles of the City of Atlanta.

Performance Monitoring Process

Performance monitoring is a process that should be undertaken before, during, and after a transportation project. The goal is to ensure the performance monitoring process provides a continuous feedback loop to the City to inform future project decisions. To do so, the City of Atlanta will need to dedicate staff time and resources to manage this process and ensure the data and information are shared and utilized in decision-making.

FIGURE 4: PERFORMANCE MONITORING PROCESS

Before a project or street is identified for an improvement, the City should review baseline data on the street to understand how it is functioning today and what improvements might be needed to meet the City's goals. If baseline data is not available, it should be gathered prior to evaluating any design decisions.

In the design phase, the performance metrics should be used to inform the design decisions and evaluate tradeoffs. For example, vehicle speeds on the street segment might indicate that traffic calming is needed.

Metrics used during the construction phase can track how a project impacts residents and businesses located nearby. Construction metrics can also be used in procurement and contracting to assess contractor performance. These metrics are helpful to draw comparisons across different projects and locations to understand potential impacts and mitigate them in the future.

Once a project is completed, the City should return to the same locations (if possible) as where the baseline data was collected to take measurements after the project is complete. The timing of the after data collection will depend on the type and the scale of the project. The timing should allow enough time to pass for users to adjust to the new facility but not too much time that other conditions or factors nearby could have an impact on travel patterns. For example, a new development opening nearby or another construction project creating a detour to the facility.

Comparing the before, during, and after data will provide the City with a tool to communicate the impacts of projects to community members and stakeholders. The data can also be used to

inform decision-making about where and when future projects may be needed. For example, if a particular crosswalk design is especially effective in one location, other similar locations might be prioritized for the same type of project.

The performance measurement process will generate new types of data and additional data that must be maintained. It is recommended that the Department of Public Works maintain a database of this data, which will be made available to the Department of City Planning staff.

Performance Metrics

Transportation projects may include road diets, intersection improvements that enhance pedestrian safety, bicycle lane or cycle track projects, lane narrowing projects, new sidewalk construction, or resurfacing. The metrics used to evaluate the benefits and impacts of these different types of projects may be different, but City staff should strive to gather as much data as possible. There are also a number of supplemental measures that are not essential, but will be helpful depending on the project context and location.

The example form on the following pages is intended to assist in gathering the before, during, and after data used in the performance monitoring process. The form includes spaces for basic project information, key performance indicators, and optional measurers that will depend on the project type and characteristics.

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ATLANTA'S TRANSPORTATION PLAN

Project Name: _____

(street name or intersection)

Project Information	
Project limits:	
Posted speed limit (initial and changed if applicable)	
Initial Project Purpose:	<input type="checkbox"/> Asset preservation <input type="checkbox"/> Safety improvement <input type="checkbox"/> Traffic operations <input type="checkbox"/> Community request <input type="checkbox"/> Capital project <input type="checkbox"/> Other: _____
Dates of Construction:	Start: _____ End: _____
Total project cost:	\$ _____

Key Performance Indicators	BEFORE		AFTER	
	Data	Year	Data	Year
Number of Travel Lanes				
Presence of Bike Facilities (N/Y + type)				
Number of on-street parking spaces (both sides)				
Annual average daily traffic (AADT)				
Number of Total Crashes (3 year average)				
Number of Fatalities				
Number involving bicycles or peds				
85 th percentile Vehicle Travel Speeds				
Vehicle Level of Service (avg. for corridor or intersection)				
V/C ratio				

ATLANTA'S TRANSPORTATION PLAN

Optional Measures (if known)	BEFORE		AFTER	
	Data	Year	Data	Year
Peak hour traffic volume				
Avg. parking utilization 10am-8pm (on street)				
Pedestrian count (avg for corridor or total for intersection)				
Bicycle count (avg for corridor or total for intersection)				
Transit ridership (avg. boarding and alighting for stops)				
Retail space lease rate (per sq.ft. per month)				
Retail sales (per sq.ft. per month – self reported)				
Net new businesses	N/A	N/A		
Stormwater flow				

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