King County Metro Transit Performance Measurement

A useful and transparent performance measurement system will help Metro gauge how effective it is at meeting its goals and objectives. Metro will consider route-level, system-level, and peer comparison measures in order to gain a more complete picture of how well the system performs, and to identify and evaluate adjustments to the system over time.

Performance Measurement System:

Standards and Guidelines: Metro will develop a Standards and Guidelines document that will specify the criteria for designing the system. These criteria will include appropriate locations of the different types of routes, as well as various operating characteristics such as appropriate service levels, hours of operation, and stop distances. The guidelines will specify how service will be designed, measured and the circumstances that call for service modifications.

Once integrated, Metro will use performance measures to evaluate the performance of the system. Metro will be able to measure its achievement of established goals and objectives, provide a basis for comparison and change to individual routes in the system, and provide a basis for comparison of Metro's system to identified peer systems.

Route Level Performance Measures: Route level performance measures will indicate the efficiency and effectiveness of individual routes within the system. Metro will evaluate individual routes, compare the routes to one another, and then decide whether or not further action is needed. If improvement is needed, Metro will seek to take further action to adjust the route, as resources permit.
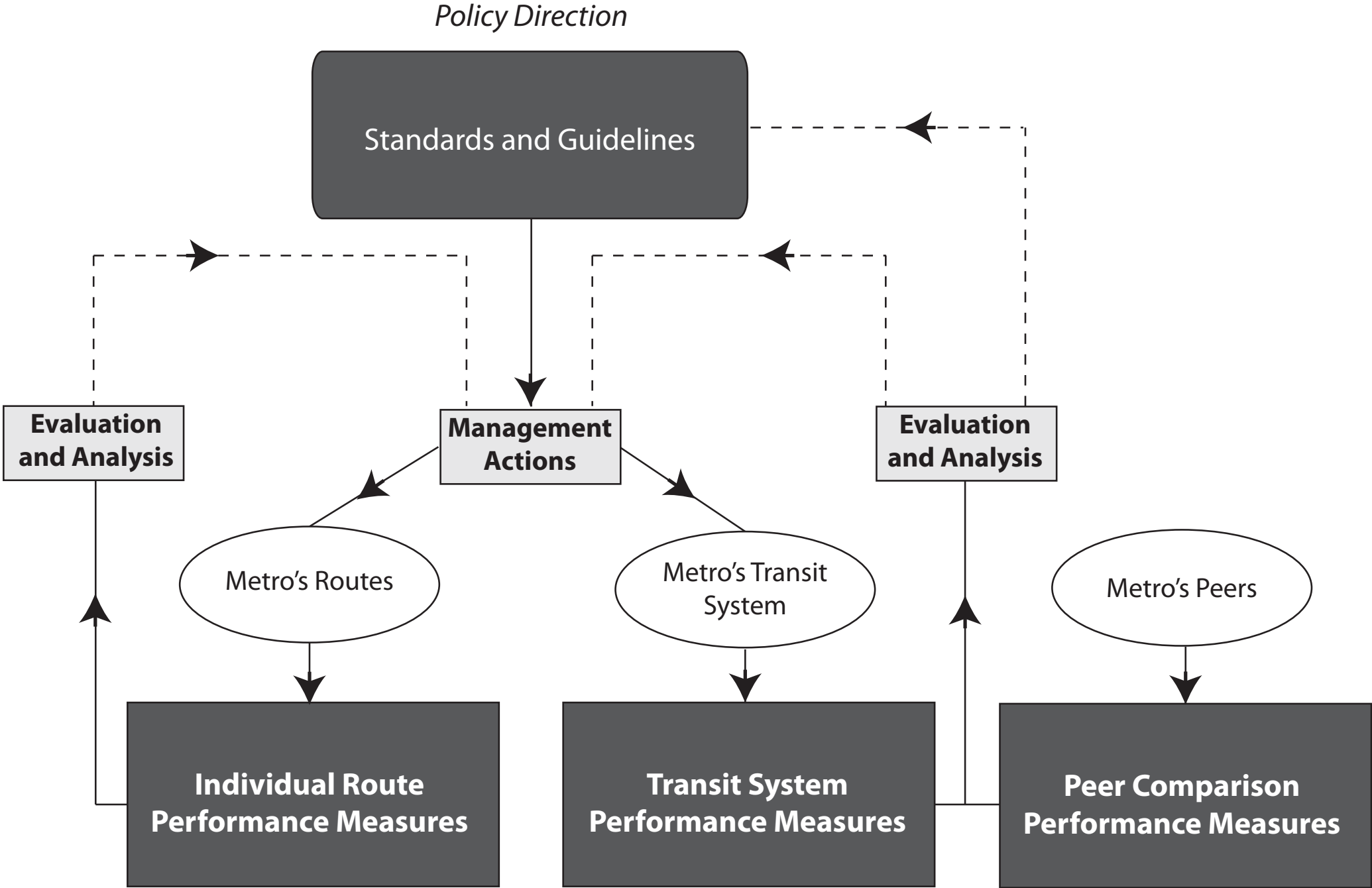
This cycle is an iterative process with targets that change with each evaluation, since the performance of an individual route is compared to the performance of a group of similar routes.
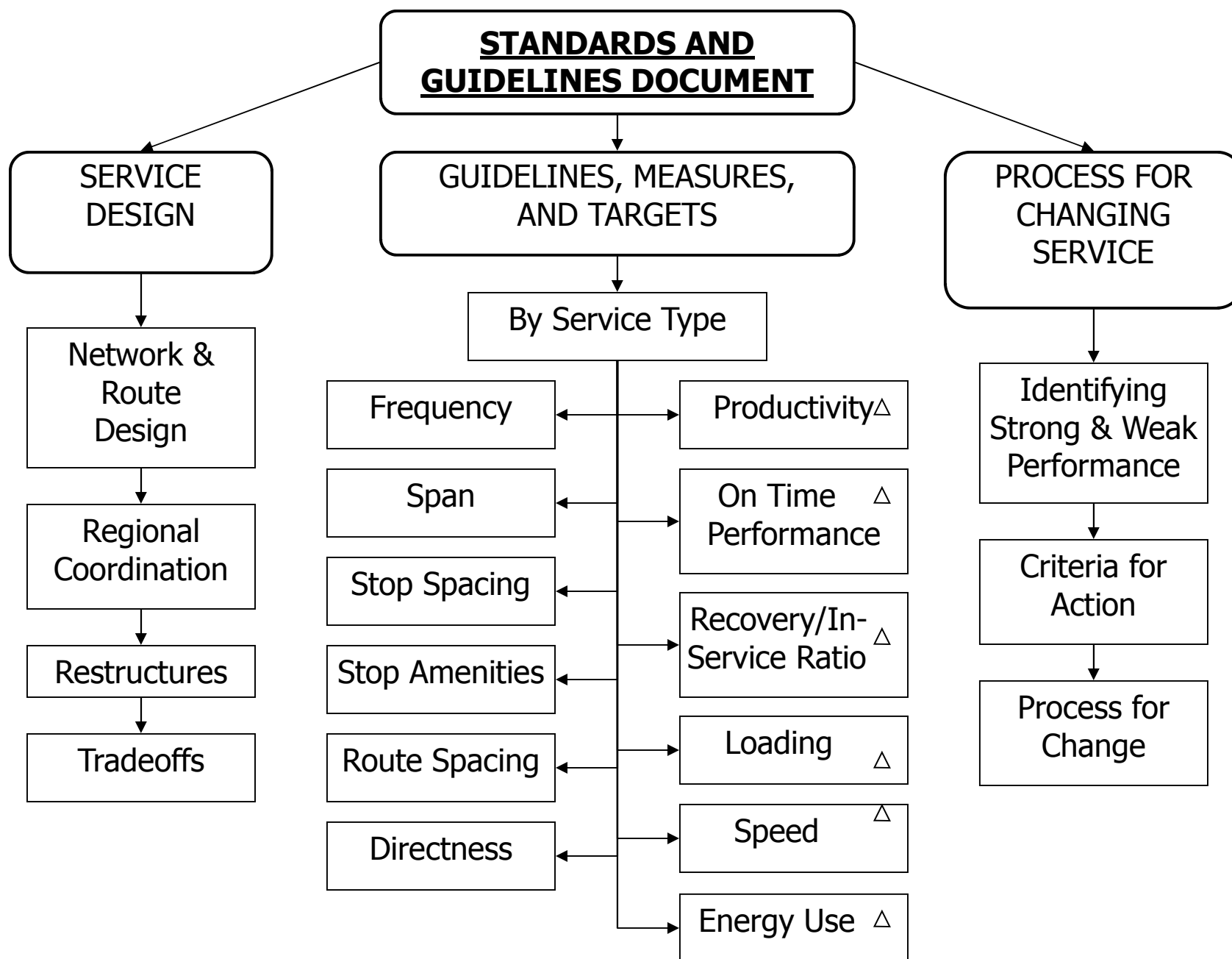
System Level Performance Measures: System level performance measures can indicate how well Metro is meeting its goals and objectives. If improvements are needed on the system level, Metro will seek to take further or different actions or to change the standards and guidelines, as resources permit.

Peer Performance Comparisons: Metro can use performance measures to gain some insight into thresholds for performance and acceptable levels of performance based on how well other transit agencies are doing. The measures used to compare against peer agencies should be based on data available through the National Transit Database (NTD) and should be explained or normalized to account for varying operating or policy conditions at peer agencies.

This cycle of performance measurement at the system level and in comparison to peers is also an iterative process, which impacts and is impacted by the overall goals and objectives established for Metro's system.

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STANDARDS AND GUIDELINES DOCUMENT

SERVICE DESIGN

GUIDELINES, MEASURES, AND TARGETS

PROCESS FOR CHANGING SERVICE

Network & Route Design

Regional Coordination

Restructures

Tradeoffs

By Service Type

Frequency

Span

Stop Spacing

Stop Amenities

Route Spacing

Directness

Productivity △

On Time Performance △

Recovery/In-Service Ratio △

Loading △

Speed △

Energy Use △

Identifying Strong & Weak Performance

Criteria for Action

Process for Change

△ Reported annually in Route Performance Report or similar document.

Metro System Performance Measures

These measures are designed for system-level use, but some may also be used to examine route performance.

√Identifies Relevant Key Factor(s)

Measure	Current (2009)	Target* (TBD)	Productivity/Efficiency	Financial Sustainability	Social Equity	Econ. Development	Land Use	Geographic Balance	Environmental Sustainability	Comments
Annual Boardings *Measure of the scale of the system and its contribution to people's travel needs.*	111.7ml		√			√			√	Reported annually: Actual hours delivered within a year, reported by service type. Source: APC Data
Boardings per Platform Hour *Measure of the productivity of transit services.*	31		√							Reported Annually: Can be reported by service type. Source: APC Data
Passenger Miles per Platform Hour *Measure of the productivity of transit services. It speaks to the strength of Metro's services especially in productive service delivery on long-distance commute-heavy routes.*	142.1		√						√	Reported Annually: Can be reported by service type. Source: APC Data
Operating Cost minus Fare Revenue per Boarding *Measure of the cost-effectiveness of different services.*	$2.94		√	√						Reported Annually: Can be reported by service type. Source: APC Data
Operating revenue/operating cost *Measure of operating cost supported by fares and revenue directly associated with operations.*	27%			√						Report Annually: Can be reported by service type. Source: APC Data
Percentage of HOV use to CTR employment sites *Surrogate measure of Metro's contribution to economic development and congestion relief.*	44.9%					√				Report biennially: Source: CTR employer surveys
Percentage of households that use transit (measures both regular and infrequent riders) *Measure of Metro's market penetration and mobility.*	37.0%						√			Report biennially: Source Metro Rider/non- Rider surveys
Percent of population in minority/low income census blocks within 1/4 mile of a bus stop served by Frequent Arterial or Local services compared to percentage of population in non minority/low Income census blocks served by Frequent Arterial or Local services *Measure proportionate delivery of service (per Federal Civil Rights Act and USDOT rules).*	80.6% / 51.6% = 1.6				√					Report Annually. *(Minority and/or low income census tracts are defined as a higher percentage than the King County average.)* Source: Census

Metro System Performance Measures

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√Identifies Relevant Key Factor(s)

	Current (2009)	Target* (TBD)	Productivity/Efficiency	Financial Sustainability	Social Equity	Econ. Development	Land Use	Geographic Balance	Environmental Sustainability	Comments
Percentage of population within census blocks with a density of 15 households per acre or greater within 1/4 of mile of a bus stop of Frequent Arterial service. *Measure of geographic distribution of service within moderate and high population density.*	**83.0%**						√	√		Report Annually. Source: Census
Percentage of population within census blocks with a density of 7 households per acre or greater within 1/4 of mile of a bus stop of Local service or better. *Measure of geographic distribution of service within moderate and high population density.*	**91.4%**						√	√		Report Annually. Source: Census
Percentage of Population within census blocks with a density of 3 households per acre or less within 1/4 of mile of a bus stop of Houly service or better. *Measure of geographic distribution of service within areas of low population density.*	**45.9%**						√	√		Report Annually. Source: Census
Transit vehicle CO2 per passenger mile divided by the average King County automobile CO2 use per mile *Measure of the contribution of Metro transit's investment and use to the reduction of overall transportation inefficiency and fossil fuel use/greenhouse gas emissions.*									√	Reported Annually. Calculation uses average Metro bus CO2 emissions and the average automobile CO2 emissions per mile.

*Actual performance measured against projected targets must account for external factors especially gas prices and employment levels

Key Factor Definitions

Land Use – *Transit serves existing land uses and responds to the planned residential and employment densities, and commercial activities that support the adopted Regional Land Use Plan.*

Economic Development – *Transit's contribution to a thriving regional economy.*

Productivity and Efficiency – *Effectiveness of meeting the travel needs of the population and that service is delivered cost effectively.*

Geographic Equity – *Distribution and delivery of services, including fixed route bus service as well as other transit and ridesharing services within King County's urbanized area, is appropriate to the land use and the market.*

Social Equity and Environmental Justice – *The proportionate distribution of transit service among people of color and those of low income within areas that have more than the county's proportion of these populations.*

Financial Sustainability – *The establishment of revenues and financial policies that account for economic cycles and that keep revenues and cost in relative balance.*

Environmental Sustainability – *Transit carries an adequate number of passengers so that the greenhouse gas emissions generated is less than would be genrated if the same number traveled by automobile.*