Performance Measurement Guidance for the RAISE 2021 Discretionary Grant Program

Background

As noted in the RAISE 2021 Notice of Funding Opportunity, Section F.3, each RAISE grant recipient must collect and report to the USDOT information on the project's performance based on performance indicators USDOT identifies related to program goals.

Purpose

This document provides consistency in guidance across the Operating Administrations and grant recipients to develop, measure, and report appropriate project performance measures. This guidance replaces previous TIGER/BUILD program Performance Measurement Guidance. Please note that the Department is currently undertaking a comprehensive review of the performance measures and will publish a revision to this guidance for future rounds of the RAISE program.

Process:

Selection of Performance Measures: The Operating Administration administering the grant will work with the grant recipient to establish a recommended two to four performance measures that enable the Department to measure and evaluate the outcomes of the individual grant, relative to the Program selection criteria. Every RAISE grant application highlighted how the RAISE project advanced appropriate long-term program objectives. However, it is not necessary that every long-term objective have a corresponding performance measure. The measures chosen for each project should reflect the measures most relevant to the grant application. The Program does not prescribe reporting a set number of measures on each project; instead, Administrators and grant recipients should develop two to four meaningful measures that address the principal elements of the grant recipient's original grant application. Generally, two to four measures are appropriate for most projects; however, a greater or fewer number of measures may be used on a case-by-case basis.

The level of effort required, and data objectivity and availability, should be considered in the measurement selection process. The measurement frequency and period depends on the measure. Frequency and period for some standard measures are included in Table 1.

Grant projects, whenever possible, should pursue commonality in the types of measures used so that individual project level metrics may be aggregated for program-level assessment. The Department would like to tie the project-level performance measures to the RAISE selection criteria: Safety, Environmental Sustainability, Quality of Life, Mobility and Community Connectivity, Economic Competitiveness, State of Good Repair, Innovation, and Partnership. Within those categories, individual project level performance measures have been developed. The Department also established a predetermined set of metrics within those categories that will be used by the Operating Administrations and the grant recipients as they develop project-level measures. If, in the development of performance measures for a project, the Operating Administration and the grant recipient wish to create a new measure, the Operating Administration is free to engage the Office of the Secretary (OST), Undersecretary for Policy to explore the addition. If deemed appropriate, that addition will then be made known to all the Operating Administrations and grant recipients. Please note that the Department is currently undertaking a

comprehensive review of the performance measures and will publish a revision to this guidance for future rounds of the RAISE program.

Performance Measurement Plan: All capital grant agreements contain an attachment with a performance measurement plan which details the performance measures that will be collected, how data will be collected, the definition and other project-specific methodology or stipulations, the project study area, the data measurement and collection period, and the reporting period and frequency.

Baseline: The Baseline report establishes a performance measure baseline for comparison. Baseline data should be measured and reported prior to project construction (on or before the Baseline Measurement Date and the Baseline Report Date that are stated in the grant agreement). In addition to Baseline measurements, the Baseline report should include a narrative discussion of how the measures were determined and will be measured, including data sources, assumptions, variability, and the estimated level of precision.

The Baseline Report should include the estimated level of progress that constitutes project effectiveness relative to the measures (i.e. estimates of anticipated improvement respective of the chosen measure). For most projects, success was defined in the RAISE application as part of the discussion of outcomes and/or the Benefit-Cost Analysis.

Finally, USDOT recognizes that the selected performance measures quantify, to the extent possible, impacts of the RAISE investment or are proxy measures for impacts but acknowledges other factors such as the state of the economy, population growth, growth in jobs and income, weather, and natural or human disasters may affect project outcomes. The Baseline report should include a discussion of local or regional factors that may impact the outcomes of the RAISE project.

Post-construction Performance Reports: Post-construction performance Reports should be submitted annually- by January 31st for the prior year, with information covering three calendar years after project substantial completion (details below). While the reporting is annual, most performance measures will be measured quarterly.

For each performance measure with quarterly measurement frequency, for each of 12 consecutive calendar quarters, beginning with the first calendar quarter that begins after the Project substantial completion date, at least once during the quarter, the Recipient shall collect data for that performance measure.

For each performance measure with annual measurement frequency, the Recipient shall collect data for that performance measure on at least three separate occasions: (i) once during the four consecutive calendar quarters that begin after the Project substantial completion date; (ii) once during the fourth calendar quarter after the first collection; and (iii) once during the eighth calendar quarter after the first collection.

Not later than January 31st each year, the Recipient shall submit to the USDOT a Post-construction Performance Measurement Report containing the data collected in the previous calendar year and stating the dates when the data was collected.

Each Annual Post- construction Performance Report should build upon previous reports by including a table with new measurement values along with previously reported values so that trends can be assessed. Reports should include raw data, but grant recipients may provide a narrative discussion on project success and the influence of other factors on the measures. As needed, the Performance Reports should include a discussion of local or regional factors that may impact the outcomes of the RAISE project.

Project Outcomes Report: Not later than January 31st after the final year of data collection, the recipient should submit to USDOT a final Project Outcomes report containing:

1) a narrative discussion detailing project successes and the influence of external factors on project expectations;
2) all baseline and post-construction performance measurement data that the Recipient reported in the Baseline Performance Measurement Report and the Post-construction Performance Measurement Reports; and
3) an ex post examination of project effectiveness relative to the baseline data that the Recipient reported in the Baseline Performance Measurement Report.

Submitting Reports: Currently, grant recipients should submit their reports to the Operating Administrations, copying RAISEgrants@dot.gov. A web portal will be developed for grant recipients to submit reports. At such time that the web portal is available, recipients will use that system to submit their performance measurement baseline and post-project data. Instructions will be provided by Operating Administrations when appropriate.

Conclusion

The USDOT is committed to monitoring performance of Federally funded projects, and particularly grants that were awarded on a merit basis. In addition to best practice, Federal grant performance monitoring is required under 2 CFR 200 Subpart D, and will support the financial stewardship objectives of the Office of Management and Budget (OMB), the Government Accountability Office (GAO), the Justice40 initiative under Executive Order 13985, among other initiatives.

Performance data provided by grant recipients will be aggregated by the USDOT to assess overall RAISE program performance and key benefits. While Performance measurement compliance is a requirement under the grant agreement, recipients should be assured that the content of Post-construction Performance data is for information only and will not be considered in USDOT decisions to terminate an award.

The USDOT is currently undertaking a comprehensive review of the performance measures and will publish a revision to this guidance for future rounds of the RAISE program. To provide feedback on the Performance Measurement Guidance, please contact RAISEgrants@dot.gov.

Please see the next page for Appendix: Table 1.

Table 1: RAISE 2022 Performance Measures

Note: These measures represent a menu of industry standard metrics that are mapped to RAISE program objectives and categorized by project type. Recipients may propose any of the following measures under any project type or program objective that they believe is most relevant to their project. Operating Administrations and OST will review the proposed measures to ensure alignment with the project and program objectives. If absolutely necessary, a recipient may propose alternate performance measures for OST review and approval.

Road Measures	Unit Measured	Measurement Period	Measurement Frequency	RAISE Program Objective(s)	Definition
Bridge Sufficiency Rating	Rating		Annual	State of Good Repair, Safety	Examine and report on the sufficiency of the bridges using adopted FHWA bridge inspection forms and reporting methodologies.
Gross Ton	Gross tons		Quarterly	Economic Competitiveness	The movement of gross tonnage of freight, including the weight of the goods minus the tare weight of the transport conveyance.
Auto Crash Rates by Type/Severity	Crashes or Crashes/100 MVMT		Quarterly	Safety	Crash rates will be measured and reported as crashes per 100 million VMT and identified by the following severity categories: fatal, injury, and property-damage-only (PDO) crashes.
Average Daily Traffic (ADT)	Vehicles	Daily, for 1-5 days[1]	Quarterly	Economic Competitiveness, Quality of Life	The total volume of vehicle traffic on a highway or road segment per day as defined by the project study area.
Average Daily Truck Traffic (ADTT)	Vehicles	Daily, for 1-5 days	Quarterly	Economic Competitiveness	ADTT measures the total volume of truck traffic per day as defined by the project study area.
Travel Time Savings	Mins or Secs	Trip	Quarterly	Economic Competitiveness, Quality of Life	Travel time savings for traffic measured during peak and off-peak periods as defined by the project study area.

[1] For a helpful reference on measuring ADT, please see: https://safety.fhwa.dot.gov/rsdp/downloads/fhwasa20064.pdf

Bike and Pedestrian Counts/Trips	Bikes or Pedestrians	Daily, for 1-5 days	Quarterly	Economic Competitiveness, Quality of Life	Average daily bicycle and pedestrian counts using National Bicycle & Pedestrian Documentation Project methodology by conducting hourly counts at key locations in the study area. Counts will be collected on a typical weekday, Saturday and Sunday and should be conducted monthly to produce a quarterly average.
Average Intersection Delay	Seconds	Per Vehicle	Quarterly	Economic Competitiveness, Quality of Life	The measure assesses the time spent stopped in queue while waiting to pass through the intersection.
Greenhouse Gas Emissions	Varies	Daily, Monthly, or Annual	Annual	Environmental Sustainability	The total calculated CO2 emissions estimated by the applicable model for the corridor or project area. The model will be chosen based on DOT Operating Administration guidance, the grantee's data collection capabilities, and industry standards at the time of grant agreement negotiations.
Fuel Savings	Gallon	Daily, Monthly, or Annual	Annual	Environmental Sustainability, Economic Competitiveness	The total amount of fuel savings, based on reduced vehicle miles of travel, by all vehicles in the street network during the analysis period (the PM peak traffic hour) taking into account vehicle class, speed, acceleration, delays, stops, speed, and distance as estimated by the applicable traffic model provided by the Operating Administration.
Maintenance Costs	Dollars		Annual	State of Good Repair	Maintenance cost to maintain in a serviceable and operable condition.

Pavement condition	Varies		Annual	State of Good Repair	The pavement condition rating of the existing roadway prior to construction will be compared to post construction ride conditions using the International Roughness Index.
Contaminated Materials	Certifications		Annual	Environmental Sustainability, Quality of Life	Cleanup activities are complete and regulatory agency compliance levels achieved.
Rail Measures	Unit Measured	Measurement Period	Measurement Frequency	RAISE Program Objective(s)	Definition
Slow Order Miles	Miles		Quarterly	State of Good Repair, Safety	The number of miles per quarter within the project area that have temporary speed restrictions ("slow orders") imposed due to track condition. This is an indicator of the overall condition of track. This measure can be used for projects to rehabilitate sections of a rail line since the rehabilitation should eliminate, or at least reduce the slow orders upon project completion.
Gross Ton	Gross Tons		Quarterly	Economic Competitiveness, State of Good Repair	The annual gross tonnage of freight shipped in the project area. Gross tons include freight cargo minus tare weight of the rail cars. This measure the volume of freight a railroad ships in a year. This measure can be useful for projects that are anticipated to increase freight shipments.
Rail Track Grade Separation	Count	Could be based on daily traffic counts (for 1-5 days) or otherwise estimated	Quarterly	Economic Competitiveness, Safety	The number of automobile crossings that are eliminated at an at-grade crossing as a result of a new grade separation.

Passenger Counts	Count		Quarterly	Economic Competitiveness, State of Good Repair	Count of the passenger boardings and alightings at stations within the project area.
Travel Time	Time/Trip		Quarterly	Economic Competitiveness, Quality of Life	Point-to-point travel times between pre-determined station stops within the project area. This measure demonstrates how track improvements and other upgrades improve operations on a rail line. It also helps make sure the railroad is maintaining the line after project completion.
Track weight capacity	Lbs.		Annual	State of Good Repair, Economic Competitiveness	If a project is upgrading a line to accommodate heavier rail cars (typically an increase from 263,000 lb. rail cars to 286,000 lb. rail cars.)
Track Miles	Miles		Annual	State of Good Repair, Economic Competitiveness	The number of track miles that exist within the project area. This measure can be beneficial for projects building sidings or sections of additional main line track on a railroad.
Transit Measures	Unit Measured	Measurement Period	Measurement Frequency	RAISE Program Objective(s)	Definition
Vehicle Hours and Miles	Systemwide Totals		Quarterly	Economic Competitiveness, Quality of Life	The hours (miles) that a vehicle is scheduled to or actually travels from the time it pulls out from its garage to go into revenue service to the time it pulls in from revenue service. It is often called platform time.*

Travel time Reliability	On-time performance for routes in the study area	Average Weekday, Saturday, and Sunday	Quarterly	Economic Competitiveness, Quality of Life	On-time performance will measure the timeliness of the route along the corridor in the study area, based upon the 5 minute standard defined as departures from ninety percent (90%) of all time points within the study area, with no greater deviation from the schedule than zero (0) minutes early departure and no more than five (5) minutes late departure.
Job Creation - Transit Provider	Number of New Jobs at Transit Agency		Annual	Economic Competitiveness, Quality of Life	The number of newly hired staff/contractor FTEs would be measurable by grantees whether in jobs and/or O&M costs, with the Baseline = 0. Number employees, post-RSD may have a new facility manager and/or cleaning contractor, etc., which could then be measurable new hires and/or with measurable O&M local funding (being based on actual before/after O&M, this exercise should be more concrete and factual rather than the previous abstract, unsubstantiated, or formulaic job creation reporting required for other federal grants during project implementation)
Travel Time Savings (or Change)	Transit travel times between selected high-use Origins-Destinations in the project corridor		Quarterly	Economic Competitiveness, Quality of Life	Travel time savings for transit travel measured during peak and off-peak periods as defined by the project study area.

Value of Housing or Land	Median Value		Annual	Economic Competitiveness, Quality of Life	From Census data of administrative records, the median assessed value of developed and/or undeveloped parcels in the project impact area, as determined by the grantee with FTA concurrence.
Vacancy Rates of Structures/Parcels	Median Vacancy Rate		Annual	Economic Competitiveness, Quality of Life	From Census data of administrative records, the median vacancy rate of developed and/or undeveloped parcels in the project impact area, as determined by the grantee with FTA concurrence.
Level of Service	Point-to-point travel times (peak/off-peak) between selected stops in target corridor	Average Weekday, Saturday, and Sunday	Quarterly	Quality of Life	Available from printed schedules or electronic systems (e.g. GTFS), which includes time for picking up, transporting, and discharging passengers for weekdays, Saturdays, and Sundays
Passenger Counts	Unlinked Passenger Counts	Average Weekday, Saturday, and Sunday	Quarterly	Quality of Life	Route-level data consistent with system wide reports provided to NTD. Directional boarding and alighting counts by route and time of day for all transit stops in the study area for a typical weekday, Saturday and Sunday.
Total Rider Usage	Passenger Miles Traveled (PMT)	Average Weekday, Saturday, and Sunday	Quarterly	Quality of Life	Calculation of weekday passenger miles of travel for the segments of transit routes operating in the study area, based on the scheduled transit service and the directional transit passenger counts collected for a typical weekday. Transit agencies may collect data during the year by using drivers' logs, scheduling software, automatic passenger

					counters (APCs), manual passenger counters, and fare boxes. If a transit agency estimates unlinked passenger trips or PMT data, it must adhere to NTD requirements.
Station Access: Bicycle and Pedestrian Counts		Average Weekday, Saturday, and Sunday	Quarterly	Quality of Life	Average daily bicycle and pedestrian counts using National Bicycle & Pedestrian Documentation Project methodology by conducting hourly counts at key locations in the study area. Counts will be collected on a typical weekday, Saturday and Sunday.
Rider Characteristics	Trip origin/destination, access/egress modes, purpose, and traveler demographics	Sample Frame	Annual	Quality of Life	A mail-back passenger survey distributed to each boarding streetcar passenger on a typical weekday while schools are in session. The specific survey methodology, sample expansion plan and data items require FTA approval prior to implementation, with data items for each surveyed transit rider to include origin-to-destination travel paths, travel purposes, modes of access to (and egress from) transit and socio-economic characteristics.
System/Vehicle Breakdowns	Major Mechanical System Failures/VMT		Quarterly	State of Good Repair	A failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns. *

Annual Operating and Maintenance Costs (presented separately)	Costs of labor, operating supplies, repair, administration, and maintenance		Quarterly	State of Good Repair	The recurring costs of providing public transportation service in the project area, including employees' wages and salaries; fringe benefits; operating supplies such as fuel, and oil; contractors' charges for services; taxes; repair and maintenance services, parts, and supplies; equipment leases and rentals; marketing; lease or rental costs; insurance; and administrative expenses..(Source: National transit Database Glossary)
Average Age of Transit Fleet	Average age of active vehicle - years from date of manufacture		Annual	State of Good Repair	The year of original manufacture of the vehicle is not the same as model year: a model 2013 vehicle was likely manufactured in 2012. *
Average Mileage of Fleet	Average mileage since the date of manufacture on active vehicles		Annual	State of Good Repair	The total miles accumulated on all active vehicles since date of manufacture divided by the number of active vehicles. Typically found by taking the average of all odometer readings at the end of the fiscal year. *
Reportable Events/PMT	Reportable Events		Quarterly	Safety	A reportable event is an event occurring on transit right-of-way, in a transit revenue facility, in a transit maintenance facility, or involving a transit revenue vehicle, excluding occupational safety events occurring in administrative buildings. This includes either planned or unplanned events. Certain events are automatically reportable regardless

					of meeting a fatality, injury, or property threshold. Events are no longer based on their effect on revenue service. Events at bus stops not on transit owned property or controlled by the agency are not reportable unless event involves a transit vehicle or boarding/alighting a vehicle. Therefore non-transit vehicle collisions or other events (assault, robbery, etc.) occurring at bus stops or shelters owned by municipalities or authorities that also operate transit systems will be excluded. (Source: Federal Transit Administration, *2015 Safety and Security Reporting Manual)*
Fuel Use - Gasoline/PMT	Gallons Used/PMT		Quarterly	Environmental Sustainability	The amount of fuel (gasoline) used to propel revenue vehicles - for all modes and types of service except for the demand response taxi (DT) mode.* divided by passenger miles traveled (PMT).
Fuel Use - Diesel/PMT	Gallons Used/PMT		Quarterly	Environmental Sustainability	The amount of fuel (diesel) used to propel revenue vehicles - for all modes and types of service except for the demand response taxi (DT) mode* divided by passenger miles traveled (PMT).
Ambient Air Quality	Tons of emissions of HC, NOX, and CO during an average weekday		Annual	Environmental Sustainability	The total calculated emissions of HC, NOX, and CO, as estimated by travel demand and emissions models provided by the grantee or MPO for the corridor or project area.

Greenhouse Gas Emissions	Varies	Daily, Monthly, or Annual	Annual	Environmental Sustainability	The total calculated CO2 emissions estimated by the applicable model for the corridor or project area. The model will be chosen based on DOT Operating Administration guidance, the grantee's data collection capabilities, and industry standards at the time of grant agreement negotiations.
Maritime Measure	Unit Measured	Measurement Period	Measurement Frequency	RAISE Program Objective(s)	Definition
Freight Movements	Rail Cars /TEU's/Bulk Cargo/RORO		Quarterly	Economic Competiveness	Number of TEU/Railcar/Truck movements over project study area.
Gross Tons	Tons (short/metric)		Quarterly	Economic Competiveness	The movement of gross tonnage of freight, in the area defined by the project study area. (Secondary variables: Types of Freight, Types of Intermodal transport)
Average Daily Truck Traffic (ADTT)	Vehicles		Quarterly	Economic Competiveness	ADTT measures the total volume of truck traffic per day as defined by the project study area.
Vessel calls	Number		Quarterly	Economic Competitiveness	Vessel type and/or freight capacity of the vessels calling to the area defined in the project study area.
Truck Miles reduced	Miles		Quarterly	Environmental Sustainability, State of Good Repair	Total truck miles reduced, calculated into reduced GHG emissions, carbon monoxide and particulate matter for mode of transportation defined in the project study area.
Cargo Lifts	TEU/Bulk Cargo		Quarterly	Economic Competitiveness	Cargo lifts performed in the project study area.

Travel Time Savings	Hr./Min/Sec		Quarterly	Economic Competitiveness, Quality of Life	Travel time savings for traffic measured over specified distance as defined by the project study area. Variables include: queuing time or cross modal transport times
Greenhouse Gas emissions	Varies	Daily, Monthly, or Annual	Annual	Environmental Sustainability	The total calculated GHG emissions, carbon monoxide and particulate matter, for the applicable modal model for elements defined in the project study area.
Cargo Storage	TEU/ Bulk Cargo/ RORO		Quarterly	Economic Competitiveness	Total Cargo storage for project study area. Variables include: time cargo stays in storage area before movement out of the Port.

* The definition of measures included in the National Transit Database (NTD) align with: 1) the NTD Glossary, at http://www.ntdprogram.gov/ntdprogram/Glossary.htm or the 2014 NTD Policy Manual.