Appendix H Coverage Service Guidelines

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MEMORANDUM

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Subject: The Met Council Bus Service Allocation Study – Coverage Service Guidelines

COVERAGE SERVICE GUIDELINES

Met Council's service area encompasses seven counties, and much of the residential and population growth has been occurring in areas outside of the traditional urban core. There is continual pressure to add service in areas that either do not currently meet or are unlikely to meet established route productivity guidelines.

This memorandum is intended to help Met Council define the purpose of a coverage route and describe a proposed approach for evaluating existing geographic and job-access coverage service. In addition, this memorandum will describe an approach for determining whether new service in unserved areas may be warranted. It will also clarify guidelines or metrics that should help inform Met Council on prioritizing coverage-based investments.

For both existing coverage services as well as proposed expansion service, this memorandum does not propose an overall level of investment in coverage service in the region.

What is a Coverage Route?

Coverage is often used as an antonym for ridership or productivity. If a route performs poorly in terms of average daily boardings or boardings per service hour, it is labeled as a "coverage" route. This definition does little to describe the desired value of coverage service, and thus it can be difficult to distinguish between coverage service that is warranted and coverage service that may not be a good use of resources.

The Metropolitan Council's Transportation Policy Plan (TPP) includes productivity standards as part of its Transit Design Guidelines, indicating the minimum average and per-trip productivity that is expected of route based on the route type (Figure 1). Routes operating in less transit supportive environments, like suburban local routes, have lower productivity standards. However, the value of a bus route in a suburban environment may not be best measured by the number of riders it carries.

Figure 1 Productivity Standard by Route Type

Route Type	Route Average*	Minimum per Trip**
Core Local Bus	≥ 20	≥ 15
Supporting Local Bus	≥ 15	≥ 10
Suburban Local Bus	≥ 10	≥ 5
Arterial BRT	≥ 25	≥ 5
Highway BRT	≥ 25	≥ 5
Light Rail	≥ 70	≥ 50
Commuter Express Bus	Peak ≥ 20; Off-peak ≥ 10	Peak ≥ 15; Off-peak ≥ 5
Commuter Rail	≥ 70	≥ 50
General Public Dial-a-Ride	≥ 2	N/A

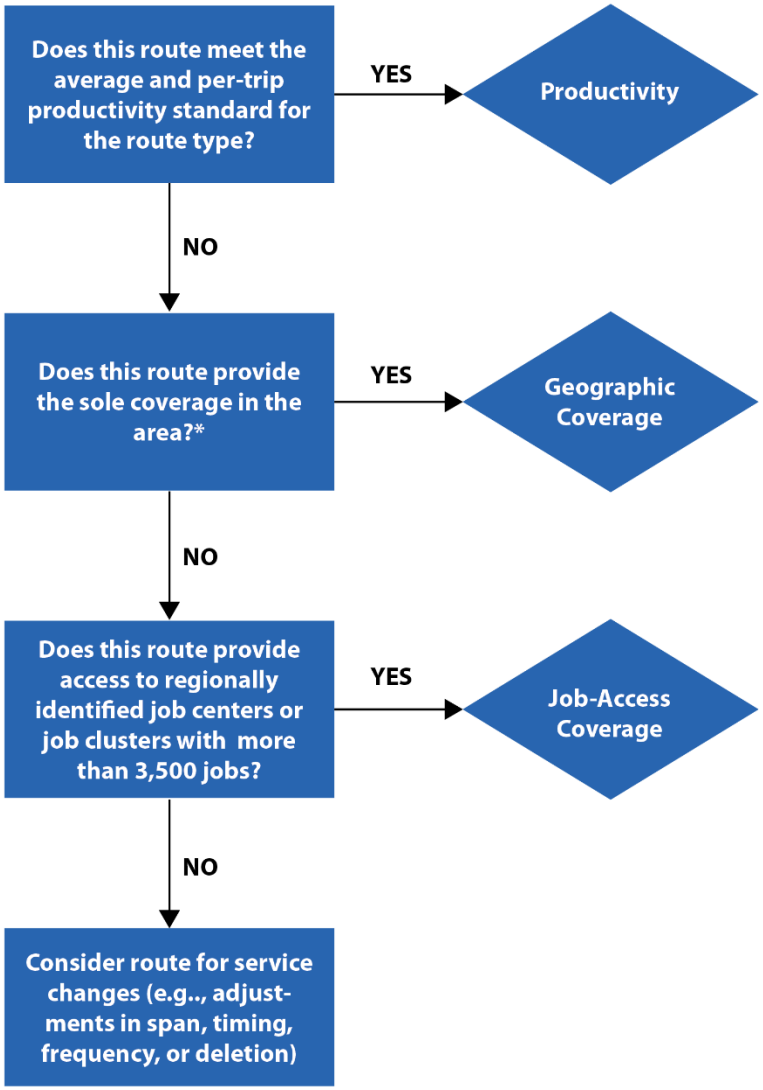
* Route average represents the average passengers per in service hour over the entire day. Individual hours may fall below standard.

** Minimum per trip represents the minimum passengers per in service hour for individual trips on a route. Multivehicle trips, such as three-car trains, will be treated as a single trip.

Source: The Met Council, 2040 Transportation Policy Plan, Appendix G: Transit Design Guidelines

When resources are allocated to less productive service, it is helpful to define the desired function of that service, so that it can be determined whether the service is warranted. Through the Bus Service Allocation Study, several service functions have been identified that are not related to creating high ridership or productivity but may deserve investment. The decision tree in Figure 2 describes the process through which an existing or planned route can be classified, so it can then be evaluated according to the function it is intended to serve. Routes can be classified as serving the purpose of productivity, geographic coverage, or job-access coverage. Services that do not meet the productivity threshold and do not serve either of the coverage-based needs may be candidates for restructuring or elimination.

Figure 2 Existing Route Productivity or Coverage Classification[1]



**Another way of asking this is "if this route did not exist, would the jobs or residents have access to transit within a ¼ mile walk? If the answer is "yes", then this route does not provide the sole coverage in the area. If the answer is "no" then this route provides geographic coverage.*

Equity Considerations in Measuring Coverage Service

Transit is often asked to address key functions, including providing mobility for those without other choices, facilitating economic development, providing job access, congestion relief, and more. In a resource constrained environment, choices on which key function to prioritize typically must be made.

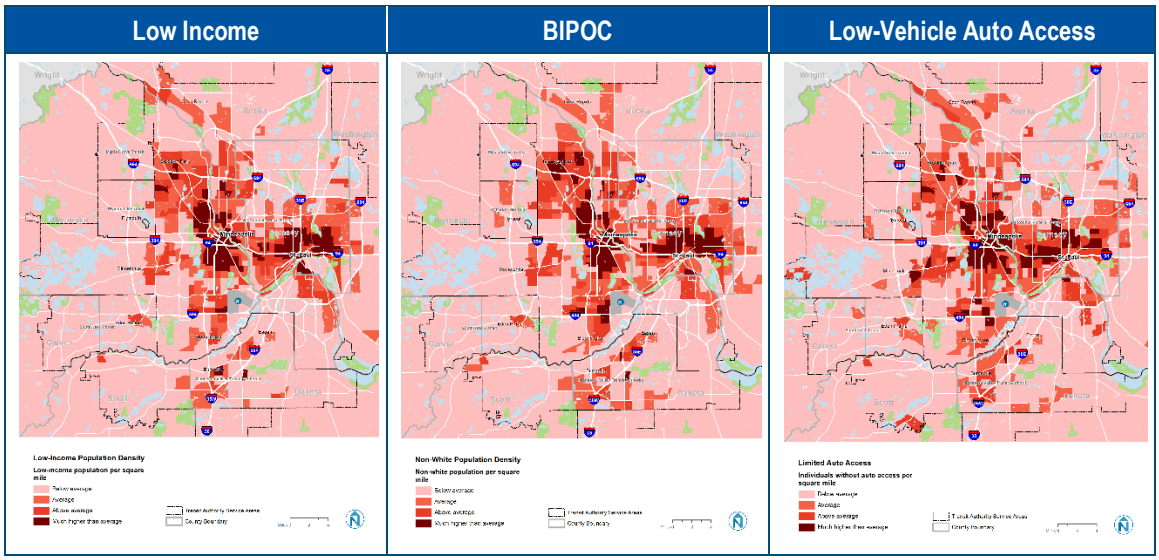
In the December 2020 Workshop, regional policymakers expressed consistent support for transit service improvements that prioritize equity, including service to low-income populations and communities of color. Some of the underlying reasons for the support include:

[1] Adapted from Walker, J. 2008. Purpose-driven public transport: creating a clear conversation about public transport goals. Journal of Transport Geography. 16 (2008) 436-442.

- BIPOC (black, indigenous, and people of color) populations have been a historically discriminated against and underrepresented and underinvested in population
- Low-income populations have fewer financial resources available for transportation and transit is a cost-effective means of travel.
- Low-vehicle access populations have fewer travel options and thus are more likely to use transit for more of their travel needs.

Figure 3 shows the regional concentrations of higher-than-average concentrations of these populations.

Figure 3 Regional Concentrations of Socioeconomic Households



Concurrently, one of the other priorities among policymakers was job access and the associated economic development factors. This was particularly pertinent to growing suburban job centers. When assessing the performance of existing routes, job access and equity factors should be considered.

Job-Access Considerations in Measuring Coverage Service

Job-access coverage routes are those that do not meet the productivity threshold for their route type, and may operate in areas that other routes operate, but are purpose-built to connect people to jobs in areas that are not served by typical peak commute services. This includes commuter express bus trips that operate in the reverse peak direction, as well as local or express bus service that connects people from suburban residential areas to suburban job centers. To sustain a transit market, a cluster of jobs (either one ore multiple employers) must reach a certain size. The Met Council has typically used 10 jobs/acre or 3,500 jobs as a guideline for identifying a regional job center or subcenter.

Classifying job-access coverage may be somewhat qualitative, based on the destinations served. Experience regionally and nationally has shown that while starting with total employment as a metric to measure potential market size, certain job types are more likely to use and support transit than others. Specifically, the employees with jobs that pay $40,000 or less annually are

more likely to use transit than those with higher income jobs[2]. Routes or trips serving more low-wage jobs should be prioritized over others when evaluating job access routes. Other elements that contribute to the success of job access routes may include shift times, the availability of free parking, where employees are coming from, and pedestrian and/or access to transit. Any one of these is usually secondary to the number of low-wage jobs. Figure 5 shows the recommended metric for a threshold to consider for maintaining job access for routes that do not meet performance standards.

Figure 4 Job-Access Coverage Evaluation Criteria

Criteria for Meeting Job-Access Coverage Goals
At least one-third of the jobs that are within ¼ mile of the route pay $40,000 or less annually

While job-access coverage may be warranted in areas that have limited ridership potential, extremely low levels of ridership may disqualify routes from continued investment, regardless of the proportion of low-wage jobs that are served. The following outlines minimum productivity thresholds for suburb-suburb and reverse commute express service.

Figure 5 Minimum Productivity for Job-Access Coverage Service

Service Type	Minimum average boardings per in-service hour
Suburb-Suburb Local Routes	5 boardings per hour
Reverse Commute Express Trips	5 boardings per trip

Factors to Consider for New Geographic Coverage Service

When planning a new transit service where no existing service can provide an indication of ridership potential, population and employment density should be used to determine whether a new service is likely to be successful. Different transit modes and service frequencies are typically supported by ranges of population and employment densities, described in Figure 6. While this is not intended to indicate that all areas with the densities listed should have the service type described, it is a guideline for understanding the potential for various types of transit service to be successful based on the existing population and employment density. The population and employment densities found in Figure 6 are meant to be applied over a proposed route corridor, not one block, census tract, or development. In addition, the densities should be distributed over an entire corridor; corridors that have a very strong destination (such as a downtown) and very low density on all other segments tend to underperform from a ridership perspective.

While population and employment density is a primary determinant of market potential, there are other supporting elements to determine whether an area or corridor can support transit successfully, including:

- Pedestrian infrastructure

2 The definition of "low income" is individuals with an individual or family income below 185% of the federal poverty threshold. Census LEHD data categorizes jobs as paying less than $25,000, $25,000-$40,000, and over $40,000. The definition of low-wage jobs for job-access coverage uses $40,000 or less as the nearest approximation of a household income for a family of 4 at 185% of the poverty line ($48,470). Due to larger or smaller family sizes, or multiple earners, this definition of low-wage jobs may leave out workers who are below $185% of the poverty threshold, or include workers who are above $185% of the poverty threshold.

- Availability of free parking
- Building setbacks
- Distance of travel to the destination
- Corridor population socioeconomics
- Shift / work times
- Number of low-income jobs

As described in Figure 7, unserved areas should meet a minimum density threshold to be considered viable for fixed-route or on-demand service. If the minimum density threshold for the proposed service type is met, it may be a candidate for a trial period. Typically, it takes 18 to 24 months for a transit market to mature, after which a new service should be evaluated according to the decision tree and evaluation process described in this memo.

For example, a proposed route in a suburban corridor with an average density of five jobs and two people per acre within ¼ mile of the proposed route is a candidate for new service. If at least one-third of the in-service miles of the proposed route pass through census blocks groups that have a percentage of low-income population that exceeds the average percentage of low-income population in the region, the route qualifies as a geographic coverage route (it may also qualify based on percentage of BIPOC population or low-vehicle access). It must carry at least 5 passengers per hour after the 18-24-month trial period, or else it may not warrant continued investment. If the route does not qualify as a geographic coverage route, it must meet the minimum standard for productivity-based evaluation (see Figure 1), which in this case would be 10 passengers per hour for a suburban local bus.

Figure 6 Typical Relationship between Density and Transit Type/Frequency

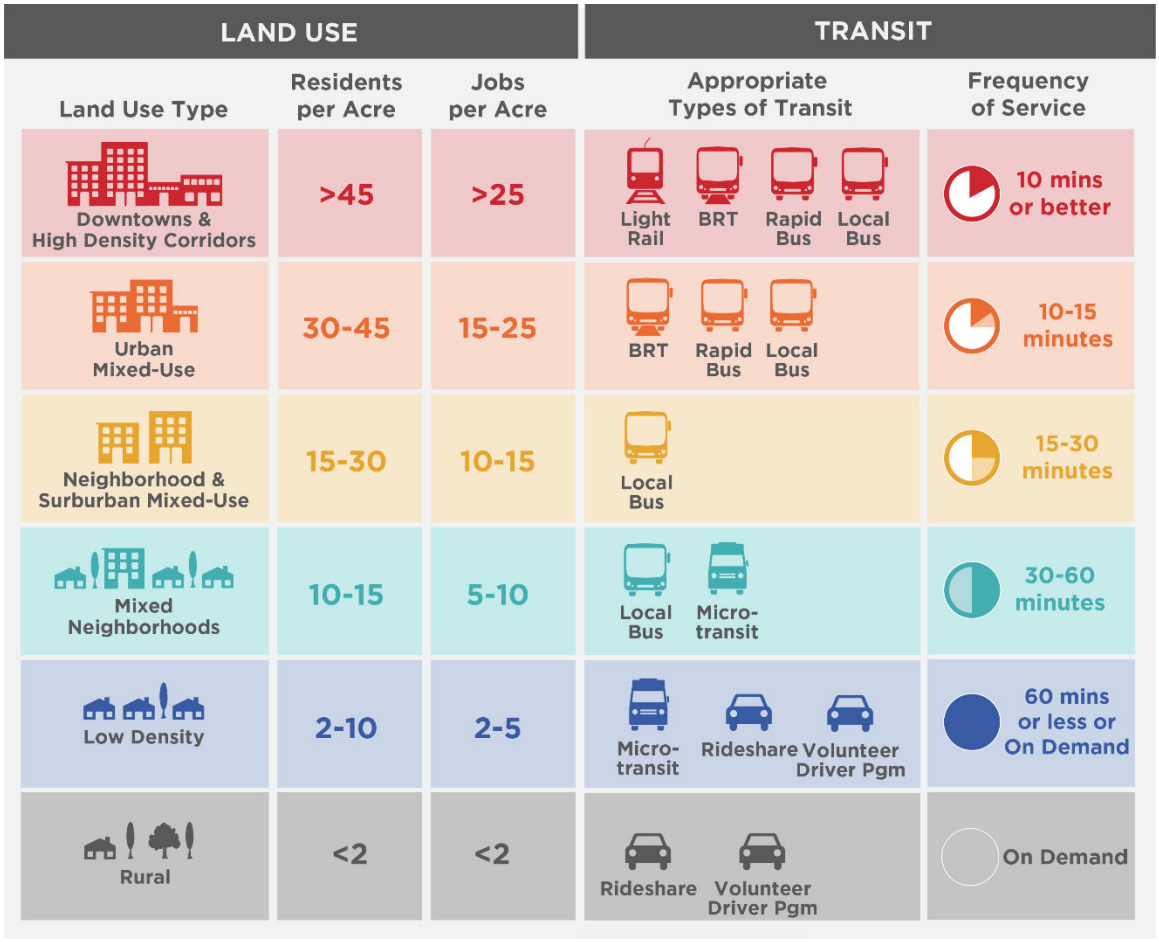


Figure 7 Minimum Combined Population + Employment Density for New Service

Service Type	Minimum density threshold for new service
New fixed routes	10 residents or 5 jobs per acre within ¼ mile of proposed route
New on-demand service	3 residents and/or jobs per acre within ¼ mile of proposed route

Considerations for New Job-Access Services

Job access is typically one of the larger drivers of expanded need in lower-density, suburban areas. Whether served by intra-suburb, reverse commute, or on-demand type services, generating ridership in dispersed suburban job centers is difficult and correspondingly, expectations for ridership should be reduced. At the same time, suburban job locations are increasingly calling for additional transit service to help fill vacant positions.

There is no industry standard for when to provide service to employment clusters outside of core service areas. One estimation method is to use an assumed maximum mode split, such as 2%-5% of all trips, to estimate the potential demand for transit to a particular employment site or job center. Mode splits should be lower for higher income job sites such as suburban office parks and higher for low-income job sites.

Met Council has identified over 40 Metropolitan, Regional, and Subregional Centers that have over 3,500 employees and average over 10 jobs per acre. These are typically the size of centers that can support transit service. While not inclusive, the job type (low-income or not), pedestrian infrastructure, parking availability, where employees are coming from, shift times, and built environment will all influence the potential for success for job access service.

The following factors can mitigate lower expectations and set guidelines to meet regional employment demand.

Availability of Deadheading Bus Trips

The region operates an extensive park-and-ride based commuter express system that operates mostly only during peak periods. Furthermore, many routes operate only in the peak direction—inbound toward downtown areas in the morning and outbound in the evening. This is because, in many markets, demand in the opposite direction is too low to warrant service.

However, in some areas, there are significant volumes of workers commuting from downtown and urban core areas to jobs in the suburbs. In these cases, services can (and do) operate in both directions. Two markets for this type of service are 1) Millennials who desire to live urban lifestyles but whose jobs are in the suburbs and 2) lower-income workers for whom the cost of car ownership is burdensome. Depending upon where the suburban jobs are located, some express routes operate identical alignments in both directions. In other cases, they follow different inbound and outbound alignments.

Existing trips heading back to base or the start of another trip can sometimes operate “in service” so that the incremental costs of providing reverse commute service is lower. Opportunities for shared costs with peak-directional service should be identified for any new potential job access service.

Availability of Supplemental Funding

Employers or employment clusters in suburban environments in several cities have used financial incentives to fund transit services. For instance, in Atlanta’s suburbs, Transportation Management Associations are funding shuttle services to provide employer access. In Chicago’s suburbs, both UPS and Amazon are helping fund express bus services from urban areas to their suburban warehouse locations.

Opportunities for funding contributions should be identified for any new potential job access service.

Building Markets through Smaller Vehicles

One of the biggest challenges with new employment-based services is estimating the size of the potential market. When possible, vanpool services or carpooling programs can be used to help build the market and set expectations for market size. Subsidizing vanpool service is typically much more cost effective than implementing new fixed-route service, but there are also more hurdles to implement and maintain service. King County Metro in Seattle and Pace in Chicago have developed multiple suburb-to-suburb, reverse commute, and first/last mile vanpool techniques to help address needs and build markets.