Discussion Guide for Regional Transit Task Force: Conceptual Transit Networks and Context for Service Growth or Service Reductions

How are service design objectives defined and prioritized? What is the best balance of tradeoffs, assuming no single objective drives every element of system design?

NOTE: For discussion purposes there is a rating for how each scenario effects each of the six key factors (see 2nd page), using a 1 to 6 scale, 1 being highest consistency with factor, 6 being lowest.

	High Productivity Corridors	All Day Mobility	Congestion Relief	Geographic Distribution
Scenario and Description	**High ridership bus routes and service frequency are focused on the core corridors with highest productivity** (based on boardings and rider miles per unit of service) while connections to/from areas of higher population and job density, as well as "demand collectors" at high use park-and-rides, are prioritized. Service design is based on guidelines that favor certain productivity factors that generate the best market share (percent of people/households using transit) and revenue growth. **Service span[1] and frequency that generate the highest possible ridership are prioritized over geographic coverage**. **Local routes and demand responsive (DART) services operate at minimal span and frequency levels in some areas of lower population and job density**. For many lower density and rural areas, vanpools, rideshare services and community agency vans are the primary products offered.	**High ridership and local bus routes are focused on the provision of all day geographic coverage over a 12 to 18 hour span of service** within the urban growth area of King County, **with less emphasis on peak period commuter routes and late night high ridership or local routes.** Late night travel in areas of higher density by persons who are transit dependent may be provided by these fixed route services operating longer than 18 hour service span or via subsidized taxis where available. **Service span and geographic coverage are prioritized over ridership demand-based frequency**. Demand responsive services are more prevalent in lower population density areas. **Vanpools and rideshare services are critical to meet demand to/from areas of higher job density**. These services, as well as community agency vans, supplement the fixed route network to provide mobility in lower density and rural areas.	**High ridership and commuter bus routes' service frequencies are more heavily focused in the peak period**, connecting areas of higher population density and park-and-rides with areas of higher job density. High ridership **routes to/from areas of high population or job density, park-and-ride commuter routes and light rail feeder services that increase peak period market share are prioritized over providing frequent service during off-peak periods, long hours of operation and coverage**. **Local routes and demand responsive (DART) services operate at minimal span and frequency levels in some areas of lower population and job density**. In lower density and rural areas, focus on promoting vanpools and ridesharing through various incentives and financial support of community based transportation services.	All bus route types are provided within the urban growth area of King County. **Geographic coverage is prioritized over ridership demand and service span.** **High ridership routes operate with "policy headways"[2]** providing service to, between and within activity centers within the urban growth area (UGA) of King County. **Policy headways are defined in such a way to blend high productivity, all day mobility and congestion relief objectives.** For rural and low-density areas within the UGA, coverage is provided by local fixed route and demand responsive service designed to connect those areas with a local activity center and to high ridership services. **While geographic coverage is prioritized, efforts are made to appropriately match service levels and service types to the population and job density** as well as walk vs. car access within the network.
Growing System with new transit revenues	**New investments are prioritized to routes with greatest potential for ridership growth and service design is tailored to attract more riders and higher market share**. More commuters transfer to rail and a trunk bus routes to complete their commute. Integration with Sound Transit Rail services (Link and Sounder) and the establishment of high frequency RapidRide bus rapid transit corridors **results in fewer direct commuter services being offered and fewer of those that are offered serve low density neighborhoods with lower ridership.** **Opportunities to consolidate current high ridership and local routes to provide higher frequency, increase the distance between stops and implement transit priority measures to speed service are actively pursued**. Longer walk access or less neighborhood coverage results.	New investments are prioritized to try to provide all areas of King County with all day service levels to meet ridership demand as well as to ensure geographic coverage. **As resources are available, more areas would receive service for a full 18 hour day and at higher service frequency.** **Efforts to increase attractiveness** and service quality through restructure of services to improve speed, directness of travel and frequency **may be prioritized over providing comparable service frequency** (e.g. buses every 15-30 minutes on all routes, rather than routes having greater differences in frequency, such as 60 minute, 30 minute, 15 minute or less frequency) in all geographic areas. Ridership **demand within each geographic area may remain a policy focus** and result in service investments based on achieving higher productivity (based on boardings and rider miles per unit of service), as compared within each defined geographic area.	New investments are prioritized to attract commuters to ride transit during weekday peak travel periods. **Service design focuses on the provision of one-seat, frequent/direct service tailored to attract riders who currently drive alone**. This service design requires a larger bus fleet, increased base capacity and park-and-ride capacity expansion and related operational facilities such as layover/staging locations in major employment centers. **Opportunities to consolidate current high ridership and local routes to provide higher frequency during the peak period are actively pursued**. Longer walk access or less neighborhood coverage results. **As resources are available, the "peak period" may be expanded with higher frequency services to capture more ridership** and provide options to riders in the most traffic congested freeway corridors.	**New investments are based on achieving policy headways and geographic distribution of services and are prioritized over ridership demand and service quality issues** such as crowding or on-time-performance. **Ridership demand within each geographic area may remain a policy focus and result in service investments based on achieving higher productivity (based on boardings and rider miles per unit of service), as compared within each defined geographic area.** Efforts to increase attractiveness and service quality through restructure of services to improve speed, directness of travel and frequency could also be prioritized over providing comparable service frequency (e.g. buses every 15-30 minutes on all routes, rather than routes having greater differences in frequency, such as 60 minute, 30 minute, 15 minute or less frequency) in all geographic areas.
Reducing System with current revenue shortfall	**In reducing service, the goal is to retain service quality in corridors with highest ridership productivity and that preserve characteristics that maximize market share**. This results in fewer routes of all types, especially local service coverage and high ridership and commuter routes with lower use. Service reductions are taken from both peak period and all-day services.	**In reducing service, the goal is to retain most existing all day geographic and service span coverage, existing connections and service levels.** This results in the bulk of service reductions being taken from peak commuter and high ridership services. Some low use park-and-rides are assumed to close.	**In reducing service, the goal is to retain service quality for commuters during the peak travel periods.** This results in significant reduction in midday, night and weekend services limiting off-peak service levels and geographic coverage.	**In reducing service, the goal is to retain all route types and geographic coverage at somewhat lower service levels.** The result is across the board reductions of all routes with less consideration of relative ridership levels, productivity or service quality issues.

[1] Service span refers to the period or number of hours operated each day, e.g. a route operating from 8 a.m. to 6 p.m. provides a ten hour service span.

[2] Policy headways refer to the operation of service frequency (number of buses per hour, or time between buses) based on adopted policies rather than solely in response to ridership demand and service quality shortfalls such as crowding and on-time-performance.

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	High Productivity Corridors	All Day Mobility	Congestion Relief	Geographic Distribution
Land Use	Expected to **highly concentrate service coverage and service levels where residential and job density is greatest**. 1	Generally **expected to correlate service coverage and service levels where residential and job density is greatest but with higher priority on ensuring all day (12 to 18 hours) geographic coverage**. 2	**Generally expected to correlate peak period service levels where residential and job density is greatest.** However, off-peak services would be less correlated with land uses. 3	**Higher priority is given to ensuring geographic coverage and service span across all areas of King County than to matching service levels with land use.** Residential and job density are secondary factors in establishing service levels and concentration of high ridership and commuter routes. 5
Social Equity and Environmental Justice[3]	**Areas with higher than average minority and low-income population would likely receive somewhat greater concentrations of service than non-minority, non-low-income areas**. 2	**Areas with higher than average minority and low-income population would receive equal or greater concentrations of service than non-minority, non-low-income areas**. However, those more dependent on transit later at night would likely be underserved because higher priority would be placed on service during a 12 to 18 hour day (e.g. 5 a.m. to 11 p.m.). 3	Would focus on work commutes, however, its **emphasis on providing mobility for workers with traditional 8 to 5 workdays would tend to disadvantage lower wage workers** who are more likely to be employed outside the traditional workday and those that do not work a weekday 8 a.m. to 5 p.m. schedule. 4	**All areas would receive about equal geographic coverage of service**. Because the priority would be on coverage rather than ridership or service quality, areas with higher than average minority and low-income populations would tend to receive relatively equal access to service as non-minority, non-low-income areas. However, minority and low-income populations in urban neighborhoods may see disproportional instances of crowded conditions and experience more unreliable service. 3
Financial Stability[4]	**Would result in higher ridership and fare revenues and lower cost per rider than in any other scenario**. Some of this revenue gain may be offset by higher per mile costs of service in the most urban areas, where service operates more slowly in stop and go traffic and with higher passenger loads, increasing relative cost of service and maintenance per bus platform mile. 2	**Would be expected to generate the second highest ridership level and thus relatively higher fare revenue.** Overall would be expected to have higher revenue to cost ratio as compared to other scenarios because extra peak buses would not be needed, full-time drive assignment would be more cost effective, and revenue hour to platform hour ratio would be relatively high. 3	**Would be expected to generate higher peak fare revenue than any other scenario**; however, total ridership would be somewhat lower and service/capital costs would be expected to be significantly higher. Although demand is strong in the peak period, the most effective service design is often single-directional, leaving many buses inefficiently traveling empty in non-revenue (not picking up riders) travel. In today's Metro system, the number of riders per hour is higher in the midday than in the peak period. 4	**Would be expected to generate lower ridership and fare revenues than the other scenarios.** 4
Geographic Equity	**Assumes the lowest level of priority is given to geographic coverage** of services and that areas with lower residential and employment density and ridership demand are provided other than fixed route service. 6	**Assumes a higher priority is given to geographic coverage of service over a 12 to 18 hour span of service** and would tend to under serve peak period and night riders dependent on transit. 1	**Assumes a low level of priority is given to geographic coverage of service and span of service outside of weekday peak period** and that areas with lower residential and employment density and ridership demand are provided other than fixed route service. 4	**Assumes the highest level of priority is given to geographic coverage of services** and those areas of higher residential and employment densities may have service frequency that does not meet ridership demand. 1
Economic Development	In serving the highest productivity corridors and the highest number of riders, this scenario **would result in the largest number of work trips at all times of day and days of the week via transit compared to the other scenarios**. 3	**Would generally serve work trips throughout the day with consistent service levels**. Peak period demand for transit would be expected to exceed capacity, and night time work shifts would tend to be under served. 3	**Would focus on peak period commuters, specifically geared to traditional workday commute times.** This focus tends to favor higher income workers and disadvantages lower income service and manufacturing employees who are more likely to work outside the traditional workday, at night and on weekends. 3	**Would serve work trips in the peak and other periods.** Crowding and on-time performance on service to Urban and Manufacturing Centers during peak commute periods is likely to be more prevalent than to areas with less employment and during other times of the day. 3
Productivity and Efficiency	By definition, **would result in the highest productivity and service efficiency based on boardings and rider miles per unit of service.** 1	**Would be expected to produce high overall service productivity and efficiency because services would be concentrated in hours of the day when there is higher demand for transit trips**. 2	**Would produce the lowest overall service productivity and efficiency, due to many services operating with riders in one direction during the morning and afternoon peak period**. 4	**Would be expected to produce low overall service productivity and efficiency relative to the other scenarios because the focus on geographic coverage tends to result in less productive service** remaining in operation to provide basic service levels and access to all areas with the urban growth area as well as some rural areas in King County. 4

[3] Census tracts in King County with higher than average minority and low-income population tend to also have higher average residential and job densities.

[4] Comments for each scenario assume they are compared under a common fare structure.