



## King County

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June 10, 2013

TO: Resha, John, King County Council Central Staff

FM: Chris O'Claire, Supervisor, Strategic Planning Analysis, Service Development, Metro Transit Division

RE: Title VI Updates to the Strategic Plan for Public Transportation 2011-2021 and King County Metro Service Guidelines

### Methods for Measuring Title VI Compliance during Major Service Changes

Title VI of the 1964 Civil Rights Act requires Metro to determine if **major service changes**, defined as a change in a bus routes hours by 25 percent or more or moving a bus stop by greater than one-half mile, discriminate against minority or low-income populations. In other words, Title VI is asking Metro to determine if its major changes to service impact minority and low income populations proportionate to their presence in our service area.

The first step in a Title VI analysis of a proposed major service change is to determine if this change has an **adverse effect**, which Metro has defined as a change that results in a 25 percent or greater reduction in service (measured as either service hours or trips). If there is an adverse effect, the next step is to determine whether this will have a disparate impact on minority populations, or result in a disproportionate burden on low-income populations.

To measure this the update provides for two different types of analyses based on the type of change. They are either:

A. Comparing the number of minority or low-income census tracts with adverse effects to the total number of census tracts with adverse effects<sup>1</sup>

**OR**

B. Comparing the change in service hours on minority or low-income routes adversely affected to the change in hours on all routes adversely affected

Metro will use method A when the adverse effect is the result of a change in routing. Method B will be used when the adverse effect is only the result of a change in hours. When a project results in adverse effects that are the results of both a change in routing and a reduction in hours, Metro will use method A to evaluate the impact of the entire project.

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<sup>1</sup> Minority and low income analyses are done separately.

## Method A

**Disparate impact:** Currently, 42 percent of census tracts in King County are defined as minority, meaning the proportion of minority residents in the census tract is greater than the proportion of minority residents county-wide. When using Method A, Metro determines the impact to minority populations by comparing the percentage of adverse impacts to minority tracts with the county-wide percentage of minority tracts. This service guideline update proposes that when the percentage of minority tracts with adverse effects is more than ten percentage points greater than the county-wide percentage of minority tracts, there is a **disparate impact**.

See “Example of Disparate Impact Analysis Method A” which follows on page 3.

**Disproportionate burden:** Currently, 36% census tracts in King County are low-income, meaning the proportion of low-income residents in the census tract is greater than the proportion of low-income residents county-wide. When using Method A, Metro determines the burden to low-income populations by comparing the percentage of adverse impacts to low-income tracts with the county-wide percentage of low-income tracts. This service guideline update proposes that when the percentage of low-income tracts with an adverse effect is more than ten percentage points greater than the county-wide percentage of low-income tracts, there is a **disproportionate burden**.

## Method B

**Disparate impact:** Currently, 51 percent of annual hours are invested in minority routes-routes which have more inbound boardings in minority tracts than the county average. When using method B, Metro determines the impact to minority populations by comparing the hours removed from minority routes with all the hours removed to the county-wide percentage of service hours on minority routes. This service guideline update proposes that when, of all hours removed, the percent removed from adversely affected minority routes is more than 10 percentage points greater than the percent of hours serving minority routes, there is a **disparate impact**.

**Disproportionate burden:** Currently, 54 percent of annual hours are invested in low-income routes, routes which have more inbound boardings in low-income tracts than the county average. When using method B, Metro determines the impact to low-income populations by comparing the hours removed from low-income routes with all the hours removed to the county-wide percentage of service hours on low-income routes. This service guideline update proposes that when, of all hours removed, the percent removed from adversely affected low-income routes is more than 10 percentage points greater than the percent of hours on low-income routes county-wide there is a **disproportionate burden**.

See “Example of Disproportionate Burden Analysis Method B” which follows on page 5.

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***Example of Disparate Impact Analysis Method A***

***Example 1: Snoqualmie Valley Alternative Service Delivery Project – September 2013***

This project will end route 224 in Duvall, so that it no longer serves Carnation or Fall City, and its routing changed to serve more of Redmond Ridge. Route 311 was revised to end in Woodinville rather than Duvall. All but the peak period Route 209 trips were converted to route 208 to provide all day, two-way service between Issaquah and North Bend via Snoqualmie Ridge.

**Determine whether Major Service Change Occurred:**

The Snoqualmie Valley Alternative Service Delivery Project resulted in major changes to routes including change of hours by more than 25 percent and changes of bus stops by more than one-half mile.

**Determine whether Adverse Effect(s) Occurred:**

Because the Snoqualmie Valley Alternative Service Delivery Project resulted in routing changes we used Method A and assessed whether there was a 25 percent or greater reduction in the number of trips serving any census tract. This analysis found three tracts that had a reduction of 25 percent or more of the transit trips.

**Determine whether Disparate Impact Occurred:**

In the case of the Snoqualmie Valley Alternative Service Delivery Project, none of the three tracts that had adverse effects were designated as minority tracts. The table below shows how the adverse effects would be compared to the county distribution and how that comparison would be applied to the threshold. In this example, there is no disparate impact because the percentage of minority tracts with adverse effects (0 percent) is less than ten percentage points greater than the percentage of minority tracts in the county (42 percent).

**Example 1: Disparate Impact Analysis Method A**

	Tracts with Adverse effects	% of Tracts with Adverse effects	% of Tracts in King County	Difference	Disparate Impact Threshold
Minority	0	0%	42%	-42%	> 10%
Non – Minority	3	100%	58%	N/A	N/A
Total	3	100%	100%		

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***Example of Disparate Impact Analysis Method A (cont.)***

***Example 2: Hypothetical Service Change – what would a disparate impact look like?***

To help understand what a disparate impact would look like, imagine two (rather than zero) of the tracts with adverse effects were classified as minority tracts.

In this hypothetical example the determination of a major service change and adverse effects would remain the same so we will continue the example from the determining whether a disparate impact has occurred.

**Determine whether Disparate Impact Occurred:**

In this hypothetical case we are assuming Metro found two of the three tracts that had adverse effects were designated as minority tracts. The table below shows how the adverse effects would be compared to the county distribution and how that comparison would be applied to the threshold.

In this hypothetical example, there is a disparate impact because the percent of minority tracts with adverse effects (67 percent) is more than ten percentage points greater than and the percent of minority tracts in the county (42 percent).

**Example 2: Disparate Impact Analysis Method A**

	Tracts with Adverse effects	% of Tracts with Adverse effects	% of Tracts in King County	Difference	Disparate Impact Threshold
Minority	2	67%	42%	25%	> 10%
Non – Minority	1	33%	58%	N/A	N/A
Total	3	100%	100%		

**Example of a Disproportionate Burden Analysis Method B**

Example 3: A hypothetical change: what would a disproportionate project look like?

In this hypothetical example we assume that Metro has identified 6 routes that are below both “bottom 25%” performance measures at night and all these services are above their target service level. To help move Metro towards a more efficient system Metro is proposing to reduce or eliminate night service on these routes. There were no routing changes associated with this project.

**Determine whether Major Service Change:**

Use the table “Example 3: Change in hours of routes in project” for this example. Four of the routes with service reduction were 25 percent or greater and would be classified as a major service change.

**Example 3: Change in hours of routes in project**

Route	Low-income Status	Hours removed	Total Annual Hours	% of hours total hours removed
u	Yes	650	4,000	16%
v	No	600	3,500	17%
w	No	800	2,800	<b>29%</b>
x	Yes	1,100	4,100	<b>27%</b>
y	Yes	1,300	5,200	<b>25%</b>
z	Yes	950	3,800	<b>25%</b>

**Determine whether Adverse Effect(s) Occurred:**

In this example we are using Method B because there was no routing change. In Method B any major service change that was the result of a service reduction would be an adverse effect. As shown in the table above, routes w, x, y and z were each reduced by 25 percent or more and would be classified as adverse effects.

**Determine whether Disproportionate Burden Occurred:**

As shown in the table above, routes X, Y and Z are assumed to be low-income routes. The table below shows how the adverse effects would be compared to the county percentage and how that comparison would be applied to the threshold.

In this hypothetical example, there is a disproportionate burden because, of all the hours removed the percent removed from adversely affected low-income routes (81 percent) is more than ten percentage points greater than the percent of hours in low-income routes county-wide (54 percent).

Example 3: Disproportionate Burden Analysis Method B					
	Hours from adversely affected routes	% of hours from adversely affected routes	% of hour on routes	Difference	Disparate Impact Threshold
Low-Income	3,350	81%	54%	<b>27%</b>	<b>&gt; 10%</b>
Non – Low-Income	800	19%	46%	N/A	N/A
Total	4,150	100%	100%		