

How is Equity Calculated when Adding or Reducing Transit Service?

The adopted Service Guidelines (Ordinance 19367) use equity as a factor when prioritizing transit routes for additions or reductions. An equity score is calculated for each bus stop and each route using the metrics described on the left. A hypothetical example, for Imaginary Route #IR, is on the right. The Service Guidelines criteria for additions or reductions to service are described below.

Equity Metrics

EQUITY PRIORITY AREA SCORE (EPAS)

Scale: 1-5 points

Based on: **Census block group surrounding each bus stop**

Used for: The EPAS forms the basis for the other two equity scores (the EPS and OIS). The EPAS is also used to prioritize areas for flexible services.

Calculated by: Each bus stop is assigned a score of 1-5 based on weighting the demographic data of the census block group it is in:

Population that is non-white or Hispanic	40%
Population living 200% below the federal poverty level	30%
Population that is foreign-born	10%
Limited-English speaking households	10%
Population living with a disability	10%

A higher EPAS means a higher equity need.

EQUITY PRIORITIZATION SCORE (EPS)

Scale: 0-10 points

Based on: **Each bus route**

Used for: The EPS is used as a factor in identifying the service level target for each route, as well as its priority level for investment when adding service as part of the Service Guidelines' Priority #3 (Service Growth). The three factors used to prioritize service additions (equity, land use, and geographic value) are described below.

Calculated by: The EPS starts with the average EPAS for all stops on a bus route. This average is then ranked against all the averages from all other routes, and points of 0-10 are assigned to each route. The higher the EPS (average or points), the higher the equity need for that route.

OPPORTUNITY INDEX SCORE (OIS)

Scale: 1-5 points

Based on: **Each bus route**

Used for: When transit service must be reduced, the OIS is used as the equity score when determining the reduction priority for a route. The factors used in prioritizing service reductions (productivity and equity) are described below.

Calculated by: The OIS starts as the percentage of all EPAS bus stop scores of 5 for a given route. This percentage is then ranked against the percentage of EPAS 5-scores for all other routes, and points of 1-5 are assigned, dividing routes into quintiles. The higher the OIS, the higher the equity need for that route.

How is service added?

The adopted Service Guidelines include three priorities to add service:

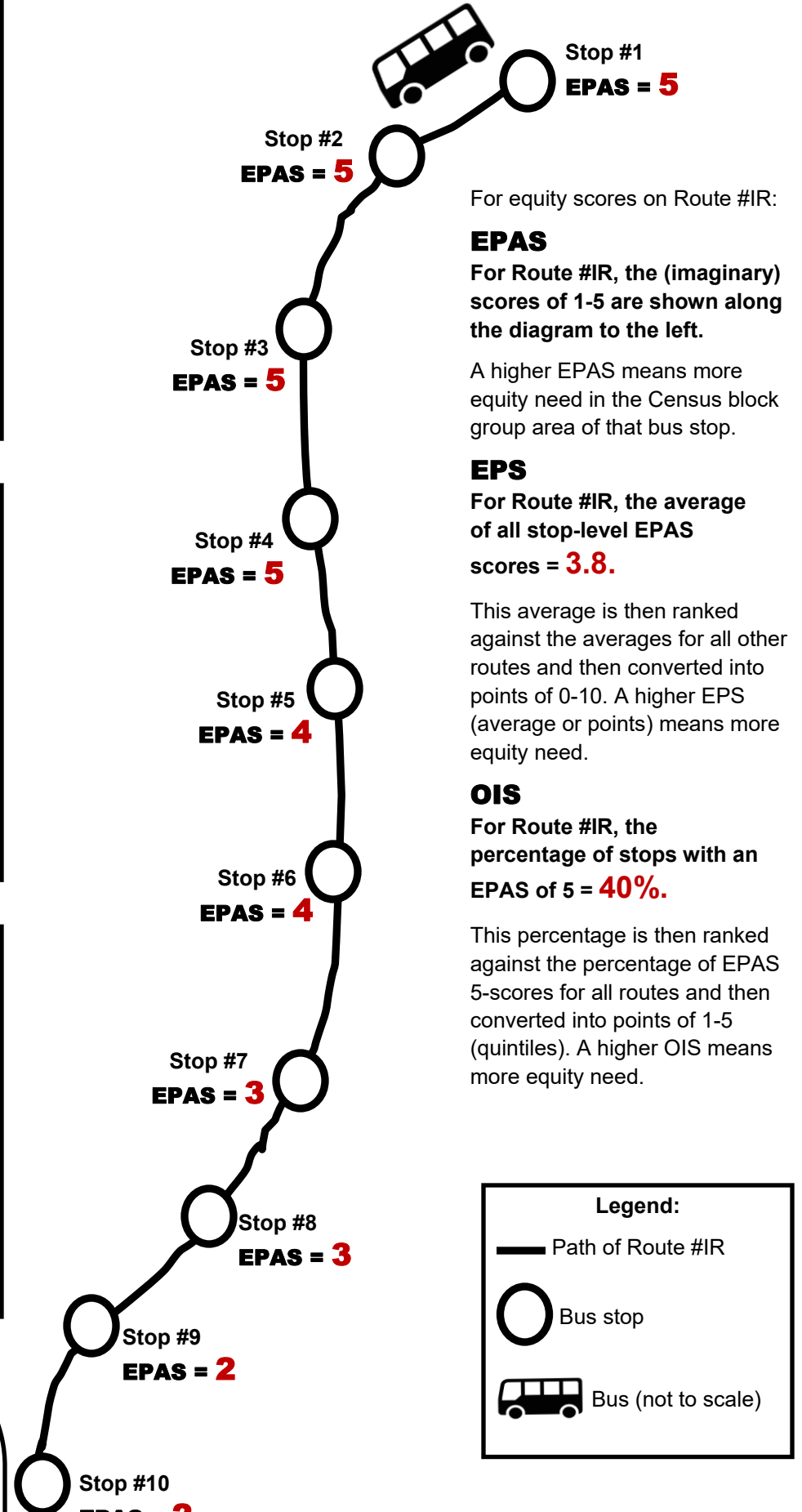
- Priority #1 = Reduce Crowding:** add service to overcrowded routes
- Priority #2 = Improve Reliability:** add service to routes that run late
- Priority #3 = Grow Service:** add service to meet target service levels

When service is added under Priority #3, the Service Guidelines use three factors to rank routes to establish what is the target for future service and how additional service should be added over time:

Factor & Measures	Weighting <i>(What is target)</i>	Prioritization <i>(How reach target)</i>
Equity	25%	#1
EPS	(10 points)	
Land Use	50%	#2
* Households within 1/4 mile	(20 points)	
* P&R stalls within 1/4 mile		
* Jobs within 1/4 mile		
* Low-income jobs within 1/4 mile		
* Enrolled students at high school & college within 1/4 mile		
Geographic Value	25%	#3
* Connection between regional growth centers or activity centers or manufacturing/industrial centers	(10 points)	

Example: Imaginary Route #IR

This is a hypothetical of an imaginary route (#IR) with 10 stops, showing how the EPAS, EPS, and OIS scores are calculated.



How is service reduced?

The adopted Service Guidelines use productivity and equity to identify priorities for reduction when service must be reduced.

Equity uses the OIS. **Productivity** uses two measures:

- **Rides/platform hour** measures the number of riders who board a bus relative to the total number of hours the vehicle operates.
- **Passenger miles/platform mile** measures the total miles riders travel on a route relative to the total miles the vehicle operates.

There are six priorities for reduction (in order):

- 1 Routes in bottom 25% on 2 productivity measures, OIS 3 or less
- 2 Routes in bottom 25% on 2 productivity measures, OIS 4 or 5
- 3 Routes in bottom 25% on 1 productivity measure, OIS 3 or less
- 4 Routes in bottom 25% on 1 productivity measure, OIS 4 or 5
- 5 Routes in bottom 50% on 1-2 productivity measures, OIS 3 or less
- 6 Routes in bottom 50% on 1-2 productivity measures, OIS 4 or 5