

MEMORANDUM

Date: November 2, 2016
To: Christine Leon, PBOT
CC: Kyle Chisek, Rich Eisenhauer, PBOT
From: Don Samdahl and Kendra Breiland, Fehr & Peers
Subject: TSDC Methodology Recommendations

SE16-0459

Over the summer of 2016, Fehr & Peers has been working with PBOT staff, as well as the transportation system development charge (TSDC) stakeholder group, to develop a preferred approach to updating Portland's TSDC program. To streamline the program and better align it with the goals in the City's Transportation System Plan, we are recommending that the program be restructured to:

- Define system eligibility based on the current system value per trip
- Charge fees based on total person trip generation

Concurrent with the methodology development, PBOT is working with the community to develop a TSDC project list to align with the City's broader multimodal and environmental goals. PBOT is also reviewing procedures for allowing appropriate discounts and credits to new development.

The remainder of this memorandum describes considerations related to each of these topics, methods, and next steps.

REVIEW OF THE CURRENT APPROACH

In October 2015, Dr. Kelly Clifton and Kristina Currans conducted a review of the current methodology to develop and assess TSDCs. They identified a number of areas for improvement, and this critique has informed the recommendations outlined in this memo. The major themes of their review are below:



- While the program uses person trips as a basis for the TSDC, the person trips are derived from vehicle trip rates found in the Institute of Transportation Engineers (ITE) *Trip Generation Report*. The limitations of this approach have been well documented. Newer person trip data are now available and should be used in any update.
- The program splits out person trips by mode. However, the underlying travel data are not of the same quality. For example, non-motorized travel tends to be underestimated by travel demand models, which are used to determine mode shares in the current TSDC program.
- Project costs are also split out by mode. System deficiencies are then subtracted from these project cost estimates; however, there is no consistent treatment of performance measures by mode in the assessment of deficiencies. As currently applied, the process negatively biases the eligibility of non-motorized projects for TSDC funding. It also further exacerbates inequities in neighborhoods with the least developed infrastructure.
- There is no accounting for the variations in person trips, mode shares and vehicle occupancies across Portland's contexts or land use types.
- The desire to be multimodal may not merit the increased complexity in the current process. Moving to a TSDC based on total person trips would be simpler and better tied to available data.

TRANSITION TO SYSTEM VALUE PER PERSON TRIP

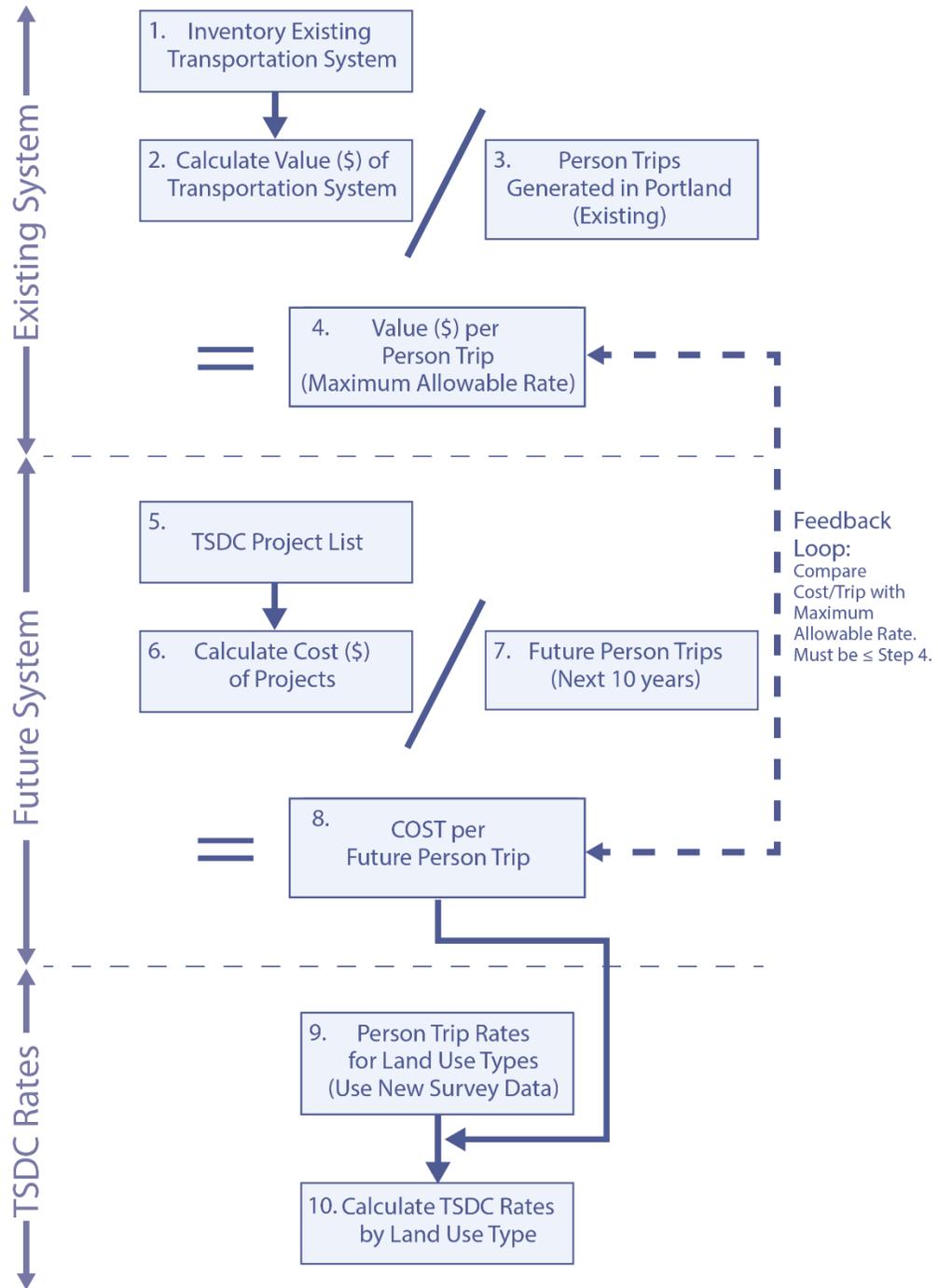
Following the May 2016 Circuit Court of Multnomah County decision that Portland's parks SDC methodology (basing the parks fee on historic level of investment) is valid, it appears that a similar methodology could be applied for TSDCs. This would simplify the way that TSDCs are calculated and aligns well with an updated person trip approach.



There is at least one existing TSDC program in the country that has applied the system value per capita methodology discussed above. Oakland, CA passed their TSDC in June 2016.

HOW COULD THIS BE APPLIED IN PORTLAND?

The figure on the next page summarizes the recommended approach, with details provided below.





DESCRIPTION OF TSDC STEPS

Determine Maximum Cost Per Trip Based on Existing System:

- 1** Use the City's Status and Conditions Report and GIS database to prepare an inventory of the city's transportation system, including both local and arterial streets, as well as infrastructure like signals, sidewalks, bicycle facilities, medians, plazas, etc. (The exact infrastructure to be included would be subject to project eligibility decisions, which are described as next steps.)
- 2** Calculate the replacement value of the current system using current unit costs from comparable projects recently constructed in the city.
- 3** Calculate the number of daily person trips generated by land uses within the city. Use the Metro travel demand model or other person trip generation techniques.
- 4** Calculate a system value per trip calculated based on the above information. This represents the maximum allowable TSDC rate.

Calculate Cost per Trip Based on TSDC Project List

- 5** Determine the TSDC project list for the next 10 years. (This is currently under development.)
- 6** Calculate total cost of TSDC project list.
- 7** Forecast the 10-year growth in daily person trips generated by new development within the city. Use the Metro travel demand model or other person trip generation techniques.



- 8** Divide the TSDC project list cost by the 10-year growth in person trips to determine the TSDC cost per person trip.

KEY ACTION: Compare the TSDC cost per person trip (Step 8) to the system value per person trip (Step 4). If the TSDC cost per person trip is equal to or less than the existing system value, then the TSDC rate can be used. If the TSDC rate exceeds the existing system value, then the existing system value serves as the maximum allowable rate to be charged.

Calculate TSDC Rates

- 9** Determine the number of person trips generated by different land use types within the city. Convert this into a person trip rate per unit of development (Examples: housing dwelling units; commercial square footage). Use new person trip data available nationally and within the Portland region. For those land uses where person trip data are not currently available, use the ITE *Trip Generation* Handbook to estimate person trips. As new data become available, these rates can be updated.
- 10** Calculate updated TSDC rates by land use type. These are expressed as dollars per unit of development.

BENEFITS OF THIS APPROACH:

- Addresses limitations of relying on ITE vehicle-only data to develop person trip rates consistent with recommendations for professional practice (Note: the ITE *Trip Generation* Handbook (3rd Edition) recommends using person trip data and the approaches outlined here)
- Applying this approach to the TSDC methodology provides an opportunity to transition to cost per total person trip.



- New person trip data are being collected across the country, and this methodology provides the opportunity to incorporate the newest information and keep up with state-of-the-practice.
- Addresses some of the modal and spatial inequities resulting from the current approach (see critique above).
- The project list can be updated over time without updating TSDC methodology or nexus study.

NEXT STEPS

For the remainder of 2016, the following related next steps are being taken to update the TSDC program:

- **Update TSDC Project List.** City staff is updating the TSDC project list with an extensive public outreach program currently under way. The project team is also revisiting project eligibility criteria. Specifically, staff would like to see projects that increase safety and comfort for walking and biking, such as festival street conversions and plazas in the public right-of-way be included on the TSDC project list.
- **Reviewing Discounts.** As we move towards a revised person-trip based program, it is important to remember that not all person trips have the same impact on the transportation system. Discussions with staff have identified potential ways to recognize this reality within the TSDC fee schedule, including adjustments by location of the city or land use context.
- **Develop person-trip rate schedule.** For each land use type, person trip rates will be developed using available person trip data (local or national studies) or estimated by converting ITE's vehicle trip rates to person trip rates.
- **Alternative Rate Studies.** The project team will update guidance for alternative rate studies so that different and/or unique land uses can be treated fairly within the new TSDC program. Alternative rate studies will allow developers to provide documentation of different person trip rates. Opportunities for alternative rate studies are described in the next section.



OPPORTUNITIES FOR ALTERNATIVE RATE STUDIES

The city allows for alternate trip generation rate and TSDC calculations (*Section 17.15.070* of the SDC Ordinance). The following section describes the opportunities for alternate rate studies within the revised TSDC methodology, as shown in the figure.

A - Person Trip Generation Rate- The applicant may conduct independent person trip rate counts for the proposed development type. Person trip data shall be collected using methodologies described in the Institute of Transportation Engineers *Trip Generation Handbook* (August 2014). The city will determine the number of count locations sufficient to establish verifiable trip generation data.

B, C- Pass-by Trips and “New” Person Trips- Person trips are adjusted by removing “pass-by” trips (**Step B**) followed by the calculation of “New” person trip rates (**Step C**). These calculations are not subject to alternative rate studies for specific development types.

D- Multiply by Cost per Person Trip- The cost per person trip is established by the city based on the list of TSDC projects and forecasts of person trip growth within the city. This calculation is not subject to alternative rate studies for specific development types.

E- Apply Discounts- Discounts may be identified by the city for certain land uses meeting defined criteria based on development type, location, and/or context. To the extent that any applicable discounts relate to a proposed development, the applicant may conduct studies to document why such adjustments should be modified to match the development’s characteristics. Further guidance will be provided should discounts be included in the TSDC program.

F- TSDC Rate- The TSDC rate for a specific development is calculated by multiplying the person trip generation rate (**Step C**) by the cost per person trip (**Step D**) by applicable discounts (**Step E**). This is a direct calculation with no further adjustments permitted.

Generation of TSDC Rates

