

Alternatives for transit operations

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Overview

- ❑ There are a broad array of options for modification of transit operations to make it more cost effective and efficient.
- ❑ These are typically examined to deal with financial pressures or to improve the quality of service to customers.
- ❑ The options listed can be used to reduce costs or to increase revenues. Costs depend on how many vehicles are operated.

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What is the cost of one vehicle?

- ❑ Assume it will operate for two drive shifts (16 hours per day) and operate 300 days per year (weekdays, Saturdays, some holidays)
- ❑ The vehicle operates 4800 hours per year. Costs depend on the hourly operating costs of a vehicle.
- ❑ At \$50 per hour, this gives an annual cost of \$240,000.
- ❑ Thus, adding or removing a vehicle from service can change the costs of transit operations substantially.

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What is the revenue if one more person uses transit?

- ❑ A new user that uses transit regularly will add revenue to the system at very little or no additional cost
- ❑ If the person uses transit twice a day for 5 days per week and pays an average fare of \$1.00, this generates \$500 per year of new revenue.



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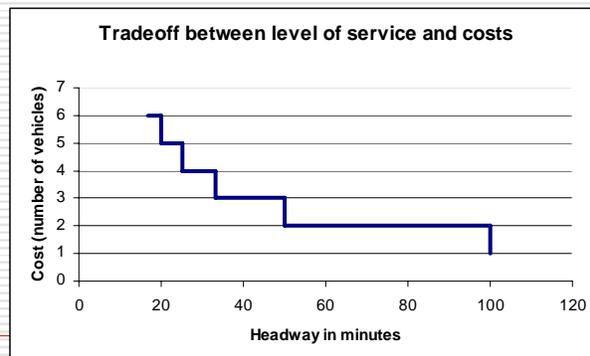
Cycle time

- The time it takes for a vehicle to return to the beginning point of the route.
 - Travel the length of the route outbound, layover at point A, return and layover at point B
 - or sum of running time in both directions plus layover.
- Number of vehicles required (cost) is cycle time / headway
- Example: a 100 minute cycle time and a 20 minute headway requires 5 vehicles
- Must be an integer, i.e. a 30 minute headway requires 4 vehicles, not 3.33

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Headway vs. quality of service

- If headways are large, a reduction of one vehicle on a route has a big impact on wait time and convenience.



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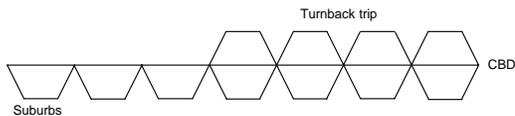
Level of Service Alternatives - 1

- Increase headways (cut buses from routes)
- Change hours of operation
- Change days of operation (Saturday, Sunday, summer)
- Add new routes
- Eliminate routes
- Turn back buses
- Split routes
- Use shorter routes

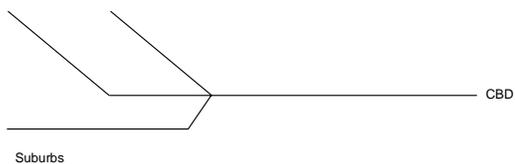


OPERATING STRATEGIES

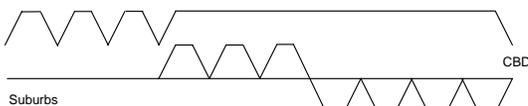
1. Turnbacks or short-turning



2. Route branching or splitting

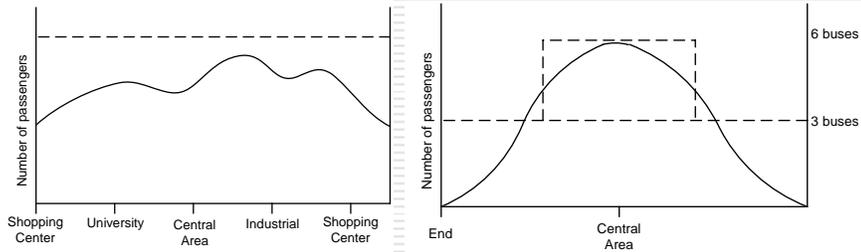


3. Zone scheduling



Route profiles

ROUTE PROFILES -- BY LOCATION



Level of Service Alternatives -2

- Reroute
- Eliminate overlapping portions of routes
- Change running time
- Change deadhead routes
- Improve schedule coordination with improved transfer facilities, coordinated with trip generators
- Express service
- Running time improvement
- Modify layover time

Revenue Alternatives -1

- Increase base fares
- Increase pass fare
- Increase tickets or token price
- Zone fares
- Change fares for special groups

Revenue Alternatives -2

- Change transfer policies
- Change hours for special fares
- Peak/off-peak pricing
- Employee pass sales
- Marketing campaign
- Special Events Service

Equipment Changes

- Equipment Changes
- Small bus/large bus
- Articulated buses
- Taxicab substitute; route ends, off peak
- Improved maintenance



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Other Changes

- Renegotiate labor contract
- Use of part-time labor
- Change phase in period for new employees
- Pool insurance risk
- Cooperative purchasing
- Cooperative maintenance
- Use private contractors if it reduces cost
(including contract administration)

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- The opinions expressed are the product of independent university work and not necessarily those of the sponsoring agencies or of the agencies supplying data for the project.