

IV. Transit Benefit and Cost Summary

Table 9 summarizes the benefits of transit that have been described in this report.

Table 9 Transit Benefits Summary

| | Description | Magnitude ¹¹³ | Distribution |
|----------------------------|---|--|---|
| Mobility Benefits | <i>Benefits from travel by transit that would not otherwise occur.</i> | | |
| 1. Economic. | Economic benefits of increased productivity and employment. | Probably moderate. Difficult to measure. | Benefits all of society |
| 2. Personal. | Benefits to users from increased employment, education, recreation and social activities. | Moderate to large for transit dependent individuals. | User benefit. |
| 3. Equity. | Benefits of providing mobility to people who are also economically, socially or physically disadvantaged. | Large. Direct benefits to disadvantaged transit dependent individuals, and indirect benefits to society from reduced inequity. | 30th users and society benefit. |
| 4. Option Value. | Maintaining transportation options in case of changes in individual or social needs. | Small to moderate benefit to all of society (anybody who could need transit service). | Benefits all of society |
| Efficiency Benefits | <i>Benefits resulting from reduced motor vehicle traffic.</i> | | |
| 5. User Cost Savings. | Users' vehicle and time savings. | Moderate. Typically 5-10¢ per mile net savings. Large savings if transit allows households to own fewer vehicles. | Users. |
| 6. Economic Development. | Increased regional economic activity due to the larger portion of local inputs in transit expenditures compared with automobile expenditures. | Moderate. Probably adds about 50¢ per dollar of transport expenditure to the regional economy compared with auto expenditures. | Regional community. |
| 7. Congestion Reduction. | Reduced traffic congestion resulting from reduced vehicle traffic. | Large. Probably averages 10-30¢ per mile of peak period driving reduced on congested roads. | Auto road users, road agencies, tax payers. |
| 8. Parking Cost Savings. | Reduced parking problems and parking facility cost savings from reduced automobile use. | Large. Estimated to save \$6-12 per commute trip, and \$1 per non-commute trip shifted from driving to transit. | Auto users, businesses, and government. |
| 9. Safety Benefits. | Relative safety of bus travel compared with automobile travel. | Moderate. Estimated to save 3.7-8.7¢ per mile shifted from driving to transit. | Bus riders, all road users, and society. |
| | | | <i>continued.</i> |

¹¹³ From this report and Todd Litman, *Transportation Cost Analysis: Techniques, Estimates and Implications*. VTPI (www.islandnet.com/~litman), 1999.

Evaluating Public Transit Benefits and Costs

| <i>Table 8 Continued</i> | Description | Magnitude | Distribution |
|---|--|--|---|
| 10. Reduced Roadway Facility and Service Costs. | Reduced costs for roadway construction, maintenance, traffic police, and related services. | Moderate. Estimated to save about 5¢ per mile shifted from urban driving to transit. | Gov. agency budgets, society. |
| 11. Reduced Roadway Land Requirements. | Reduced need to use land for roads. Increased tax revenue. | Moderate to large. Estimated to save about 5¢ per mile, but savings are long term and indirect. | Government agencies, the environment, society. |
| 12. Land Use Impacts. | Reduced urban sprawl, loss of greenspace and negative aesthetic impacts of roads. | Probably moderate to large. Includes many different costs. Difficult to measure. | Government agencies, utilities, the environment, Society. |
| 13. Air Pollution Reductions. | Reduced vehicle air pollution. | Small to large local benefits depending on location and transit power source. Potentially large global warming benefits. | Society. |
| 14. Noise Impacts. | Changes in vehicle noise emissions. | Negative to small. | Society. |
| 15. Water Pollution. | Reduced vehicle water pollution due to reduced automobile use. | Small. Estimated at about 1¢ per mile shifted. | Society. |
| 16. Resource Conservation. | Reduced use of energy and other natural resources. | Small. May increase as supplies are depleted. | Society. |
| 17. Reduced Barrier Effect. | Improved mobility for pedestrians and bicyclists due to reduced vehicle traffic. | Small to medium. Probably about 0.5-1¢ per mile in urban areas, and higher in areas with heavy pedestrian traffic | Current and potential pedestrians, cyclists, society. |
| Costs | <i>Costs of transit service (not incorporated in benefit analysis)</i> | | |
| Fares | Fares charged to transit users. | 15-30¢ per passenger-mile. | Transit users. |
| Travel Time | Additional travel time costs for transit users. | Small to medium increase compared with driving. Higher is transit service is poor. | Transit users. |
| Subsidies | Financial subsidies to provide transit service. | Averages about 2/3 of transit costs, but often less from a marginal perspective. | Local, state, federal government |

This table summarizes the potential benefits of transit use.

Of course, these estimates are quite variable and are affected by many factors, including the following.

1. *Marginal vs. Average Costs*

Transit service often enjoys economies of scale. The marginal cost of an additional rider is often less than the average cost, and may be negative if the fare exceeds incremental costs. Some of the analysis described above is based on average costs reflecting current load factors. Marginal benefits may be significantly greater for programs that increase load factors or result in economies of scale and scope.