

# **Prisma Microfinance**

## **Social Benefit Analysis & Social Return**

### **Mini-Reader**

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1. Excerpts from: "Social Return on Investment, a Practitioner's Perspective," by Jessica Lindl, Alison Lingane, and Liz Walters.
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3. Excerpts from: "Social Benefits of Public Transit - Evaluating Benefits and Costs of Public Transit Service," by the Victoria Transport Policy Institute.

Excerpts from:

**"Social Return on Investment, a Practitioner's Perspective,"**

by Jessica Lindl, Alison Lingane, and Liz Walters.

November 30, 1999

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## Acknowledgements

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We would like to acknowledge and thank Kim Smith and Lisa Daggs of Newschools.org for their help in developing this initial version of a Social Return on Investment model. Newschools.org is a cutting edge private venture capital fund helping education entrepreneurs start-up, speed-up and restart K-12 schools.

We also thank Bob Slavin and Nancy Madden of Success For All Foundation for providing data and insight on their organization. In addition, input and insights from Jed Emerson of the Roberts Foundation were invaluable to this effort. The framework Jed lays out in "Social Return on Investment," *The Investor's Perspective*<sup>1</sup> was our starting point for this model.

Finally, we greatly appreciate the efforts and guidance of our advisor, Rui de Figueiredo of the Haas School of Business at the University of California, Berkeley.

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## What is SROI?

One method of evaluating social economic return is called Social Return on Investment (SROI). SROI uses a traditional Return on Investment financial model but considers both the cost savings and social return of your program rather than actual revenues as its positive cash flows. SROI enables investors to understand the monetary savings to society that result from your effective social program. This measurement process will ultimately increase the efficiency of your investment dollars and the social-economic benefit because it encourages you to evaluate and manage the activities which best accomplish your mission. While there are limitations to SROI and consideration must be given to its use (See Appendix I – Limitations of SROI), the SROI calculation provides an important tool for comparing and measuring activities within your organization.

Several SROI models are currently being developed or are already in use. The Roberts Enterprise Development Fund has developed a model (using their own job training programs as a case study) to enable non-profits and the investment community to measure SROI. Please refer to this document for an excellent treatment of the topic of SROI in more detail.<sup>2</sup> A similar evaluation of three

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<sup>1</sup> Emerson, Jed, "Social Return on Investment," *The Investor's Perspective*. Roberts Enterprise Development Fund, November 1999.

<sup>2</sup> Ibid.

Americorps programs<sup>3</sup> (a nationwide Federal program administered at the local level) suggests that the SROI concept is gaining ground and that foundations, government and the investment community are demanding more information and accountability from social programs.

## Limitations of SROI

While SROI is in use its broad applicability to all nonprofit, education and private sectors is questionable. Potential complications include the following:

- **Measurement Challenges:** Appropriate data and research may not be available. This relates to both data and research regarding program outcomes, as well as data and research relating program outcomes to economic effects.
- **Causality and Correlation:** There may not be a strong correlation between program outcomes and social economic return.
- **Longitudinal Research:** There is often uncertainty of realizing benefits much later in life as a result of a program's earlier effects.
- **Preventative Measures:** Much of the SROI research to date has been on programs with immediate social benefits caused by social programs (job training, rehab, etc.). Preventative social programs, on the other hand, may be more difficult to measure as the number of variables that subsequently influence an outcome increases; it becomes more difficult to attribute observed benefits to a single program's efforts.

## Implementation of SROI

The economic return to your enterprise depends on your ability to manage and translate inputs (financing, human resources, etc.) into social benefits (i.e. increased literacy, self-confidence, etc.) that then improve economic outcomes (job productivity, decreased incarceration rates, etc.). Following is a step by step approach to implementing a SROI that will help you quantify your enterprise or organization's economic return to society.

### 1. Brainstorm Session

The first step in creating your SROI evaluation is to identify all of the relevant inputs and outputs in your organization and their relationships to each other. A brainstorming session with the goal of creating a list or graphical representation of these variables and their relationships to each other is an effective starting point (See Appendix II for an example).

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<sup>3</sup> Neumann et al. "The Benefits and Costs of National Service: Methods for Benefit Assessment with application to Three AmeriCorps Programs."

## 2. Flow Chart

The next step in your analysis is to create a flow chart that represents the specific variables your SROI analysis will address.

**Investment/Program Costs:** Identify all inputs that go into the model. This is the investment required to provide the full program to each individual. For example, the start-up capital your organization is using to fund your mission (\$500,000).

**Program Outcomes:** Identify all the potential ways to measure your program's results. For example, your organization increases literacy rates by 20%.

**Economic Metrics:** Identify all the economic metrics *that have a measurable economic component* affected by the program outcomes. For example, the increase in literacy rates correlates to an increase in income levels.

**Program Metrics:** Identify all of the program metrics *that have a measurable economic component* affected by the program outcomes. For example, the increase in literacy rates causes a decrease in future costs for children with learning differences.

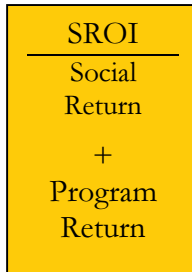
**Social Return:** The future social economic cost savings and increased revenues that result from your program's intervention. For example, what future cash flows does society profit from as a result of your program?

**Direct Program Savings:** The future cash flows that represent direct savings to your program as a result of your program's activities today. For example, what are the decreased future costs for children in your program with learning differences?

## 3. Quantify the Variables in Your Flowchart

The strength of any SROI model lies in the quality of the data from which the Investment/Program Costs, Program Outcomes, Economic and Program Metrics and all associated savings and benefits are determined. The more extensive and reliable the data is, the more accurate and easily quantifiable the computed investment return will be. Data must be collected and measured for each segment of your flow chart.

**Investment/Program Cost Data** – This information is the basis of the SROI analysis, as it reflects the initial up-front investment. In tracking and compiling cost data, it is necessary to confirm that all relevant costs, both fixed and variable, are included and shared costs have been allocated as accurately as possible. It is also very useful to be able to track costs by the same units – time period, cohort, site, etc. -- used to measure outcomes.



**Program Outcomes** – In order to calculate an SROI, it is imperative that programmatic outcomes are measured, tracked, and recorded. Depending on the specific program, outcome data will vary. Examples of outcome data include test scores, graduation rates, job placements, etc. In deciding what data to collect and how to collect it, organizations should consider the following issues:

- The outcomes should be quantifiable and should be measured in such a way that the data can be related to available research on the Economic Metrics.
- The quality of the data is critical. It should come from as large a sample as possible, be well documented, and easily replicable.
- Ideally, control group data should be available. The program can either gather control data or use measures for which appropriate control groups exist.
- Longitudinal data is particularly valuable in SROI analyses. As results are tracked into the future, fewer and fewer assumptions must be made about long term effects and the related social costs and benefits. This is, unfortunately, often the most difficult type of outcome data to collect as it often requires tracking individuals after they leave the program. And, of course, it is often not available when conducting an SROI analysis of a relatively young organization.

**Economic Metrics** – Once programmatic outcomes have been determined, it is necessary to link these outcomes to related economic metrics. Depending on the mission and activities of an organization, this link may be more or less direct. For example, the economic metrics impacted by a job training and placement program may be relatively easy to identify (employment, welfare payments, homelessness, etc.) while the economic metrics impacted by a teen pregnancy prevention program may be less immediate (high school graduation rates, personal health, welfare, etc).

There are at least two potential difficulties in this step of the analysis. First, it may be difficult to find the relevant research to document the link between the program's outcomes and the economic metrics. Second, if research does exist, the program's outcome data and the relevant research data may not be measured similarly. They may differ in terms of the measures used, sample size, demographic characteristics of the sample, how current the data is, etc. The less synonymous the data, the more assumptions must be made to correlate the two. Thus, it is very important to identify and document all assumptions. Sensitivity analysis may be used to measure the various effects of different assumptions.

To minimize these issues, you should be familiar with the nature and quality of available research related to the economic metrics that your work impacts. Ideally, your data collection systems should be designed such that program metrics can be effectively linked to the format of the available research on economic metrics.

**Program Metrics** – Programmatic outcomes should also be linked to program metrics. Success within your organization may, in some cases, lead to future cost savings. For

example, the more successful an organization is at alcohol rehabilitation, the lower its costs will be in the future of helping the same individuals.

**Social Return Data** – Quantify the return to society associated with changes in the economic metrics, this reflects the cost savings and increased contribution that results from a change in an individual or group’s circumstances. For example, Program Metrics may reveal that a program increases high school graduation rates, and research shows that high school graduates earn higher wages, are less likely to receive welfare, and are less likely to be incarcerated (these represent the Economic Metrics). The Social Return Data would be the increased tax revenue due to increased wages, the average cost of providing welfare benefits, and the average cost to keep someone in prison.

**Direct Program Savings Data**– Again, depending on the nature of your program, this category of data may or may not be relevant. Often, however, additional costs incurred by a program at one point in time result in cost savings or additional revenue at a later point in time. For example, an academic enrichment program for first graders may decrease the need in later years for resources to assist “low achieving” children, and thus may decrease future costs. As in the case of Program Metrics, the organization must measure and track these benefits over as large a sample and time period as possible and with the use of control data.

#### 4. Calculate your Social Return on Investment (SROI)

An SROI is defined as the economic return your program provides to society based on your funders’ investments. SROI calculates the present value of future economic returns and direct cost savings incurred from your program’s investments. Following is a list of the different methods one can use to calculate a SROI; which calculation is best for you depends on the needs of your program and your investors.

**Net Present Value:** This type of analysis includes a discount rate ( $r$ ) that represents the risk associated with the probability of accomplishing your program’s objectives. For example, a less risky program (perhaps targeting the computer literacy needs of highly gifted students) may use a discount rate of .05 while a riskier program (targeting the literacy needs of inner-city children) may use a discount rate of .15. The future cash flows of your program are represented by  $C$ . Future cash flows account for both the costs and returns of your program and are, of course, usually negative during the onset of your program.

$$SROI = C_0 + C_1/(1+r) + C_2/(1+r)^2 + C_3/(1+r)^3 + \dots$$

One of the most challenging aspects of the net present value method is the selection of the discount rate ( $r$ ). Most for profit firms do not have a difficult time selecting a discount rate since experience and history tells us what the risk factor should be; for example the stock market has a discount rate of .144. Since we do not know the historical risk of investments in social-purpose organizations, we must use our gut to determine a discount rate. In order to overcome this challenge, it may be easier for your organization to use an SIRR.

**Social Internal Rate of Return (SIRR)** - An IRR is defined as the interest rate that sets the present value of the cash flows equal to zero. In other words, if the cash flows were discounted at the IRR, the present value of the investment would be zero. The IRR is represented by  $r$  in the following equation, and  $C$ 's represents the cash flows:

$$0 = C_0 + C_1/(1+r) + C_2/(1+r)^2 + C_3/(1+r)^3 + \dots$$

An IRR is useful because it allows one to compare across projects regardless of relative risk. If the investor then feels there is a risk premium to one particular project over the others, this risk premium can be subtracted from the IRR.

For example (the values selected were selected for the purpose of example only), assume an investor is selecting among four projects: a web-tutorial program, two charter schools, and a curriculum development program. The investor feels that there is a significant risk premium associated with the curriculum development program because its results are not yet proven. Similarly, a risk premium must be assigned to the web-tutorial program since the availability of computers at all the schools is uncertain and the longitudinal data to prove its success is not yet available. The investor would then look at the comparison value, which is the IRR minus the risk premium. The project ranking may change as a result of considering the risk premium.

<b>Project</b>	<b>IRR</b>	<b>Project Ranking</b>	<b>Risk Premium</b>	<b>Comparison Value</b>	<b>New Project Ranking</b>
<i>Web Tutorial Program</i>	20%	1	6%	14%	3
<i>Charter School A</i>	18%	2	0%	18%	1
<i>Charter School B</i>	15%	3	0%	15%	2
<i>Curriculum Development</i>	14%	4	7%	7%	4

The SIRR model does not address debt or other balance sheet items, as the debt/equity ratio implications for a nonprofit are unclear.

## PRISMA MICROFINANCE - BUSINESS PLAN EXCERPT

### Impact Analysis and Social Return on Investment

"To claim that tangible assets should be measured and valued, while intangibles should not - or could not - is like stating that 'things' are valuable, while 'ideas' are not."

~ Barach Lev, Professor  
Stern School of Business, NYU

#### ■ SOCIAL IMPACT

Receiving a Prisma loan generates significant social impact in the following areas:

- ⇒ **Human Capital Development:** relates to improved economic standing, heightened self-esteem and sense of empowerment, and creation of a stable financial situation for borrowers
- ⇒ **Community Development:** resulting from borrowers improved economic standing and ability to give back to the community
- ⇒ **Corporate Governance:** refers to the equity incentives that Prisma will offer to its employees and its ethic of empowering its staff through inclusive decision-making roles
- ⇒ **Socially Responsible Market Creation:** speaks to the industry-wide desired outcome of Prisma's activities, which is to be at the forefront of the B2-4B revolution, developing viable products to improve the situation of the world's four billion poor people

#### ❖ Human Capital Development

Prisma's impact on human capital development results from the positive externalities generated by each dollar lent. The positive externalities start a ripple effect, which leads to subsequent ripples such as 1) improved diet as a result of having a stable cash flow and 2) increased education level for borrowers' offspring who can stay in school rather than be forced to drop out to contribute to the family's income. Improvements to borrowers' lives can be seen in all areas of basic need as a result of having a higher standing of living.

#### ❖ Community Development

In addition to improving individual borrower's economic situation, Prisma's loans also fuel community development, which in essence is the aggregated effect of the individual loans. The loans improve the standing of individual borrowers, thus stabilizing economies at the community level.

The sense of empowerment that comes from economic stability also leads to greater community involvement. This involvement can take many forms, including being involved with public health projects such as latrine building, providing for community



members who are sick or in a time of crisis, and skills transfer to other local business owners. These activities and interactions build healthy, sustainable communities.

These impacts of human capital development and community development are incorporated and quantified in the social return model described below in terms of dollars lent.

#### ❖ Corporate Governance

Prisma is offering a balanced, inclusive equity structure that extends to every employee. Senior management is indigenous, except for David Satterthwaite, the CEO and President, who worked in Nicaragua for five years. There is local representation on the board, currently one-third of the membership. Equity incentives in Latin America, including ESOPs, are far from the norm, especially for a small company. However, by doing so Prisma is promoting a new business culture of equitable private property ownership in an American company - this is globalization at its most positive!

#### ❖ Creating a commercial market that benefits poor people

According to Jeffrey Ashe, founder of Boston's Working Capital and former Vice-President of Accion International, there are approximately four billion people throughout the developing world without access to affordable credit. Entrepreneurs with excellent skills and incredible ideas are restricted in their opportunity due to lack of financial resources. Even the small amount of money needed as investment capital to start micro-enterprises like weaving baskets and selling them at the local market is beyond the grasp of the majority of the world's poor.

The world's 'unbankable' populations have three options:

1. gather limited resources from family and friends
2. borrow from a moneylender at exorbitant rates
3. turn to a microfinance institution like Prisma.

Frequently, family and friends cannot generate the necessary excess cash and the moneylender's rates are too high to be able to pay them back. So, only a loan from an institution like Prisma can result in the successful growth of a new business that may break the cycle of poverty.

According to industry sources, less than \$10 billion currently is invested in the worldwide microfinance industry. This does not even scratch the surface towards serving this market. Microcredit is NOT a panacea solution for social problems. But, it is a useful tool for many to bridge the gap out of poverty and improve their lives. In addition to this activity providing a social return, there are equally compelling market driven motivations to undertake these operations using private capital - providing this service can produce a financial return.

As with any industry sector, once an example of a successful model is provided, others will enter the field. Microfinance then will become a viable commercial market, serving billions of the world's poor.

## ■ SROI METHODOLOGY AND ANALYSIS

While some of Prisma's Social Impact Areas are easily quantifiable, others are best evaluated in terms of qualitative impact analysis. Human Capital Development and Community Economic Development are included in the quantitative analysis using number of dollars lent as the unit of measurement. The qualitative methods analyze aspects of all four impact areas. The following sections outline Prisma's quantitative and qualitative methodology for measuring SROI.

### ■ Quantitative Analysis

*CURRENT SROI ANALYSIS:* In developing its quantitative methodology, Prisma has drawn from models developed by Roberts Endowed Development Fund (REDF), one of the leaders in social enterprise. The use of a social benefit/cost ratio, adjusted for present value, gives a clear sign as to whether the social benefits outweigh the social costs and by what degree. Using traditional cost/benefit analysis benchmarks, if the ratio is greater than or equal to one, the project should be pursued.

$$\text{SROI Ratio} = \text{Present Value of Social Benefits} / \text{Present Value of Social Costs}$$

#### *Social Benefits*

Social benefits accounted for in the quantitative analysis of SROI include ripple effects from improving one's financial situations through receiving a loan, such as:

- improved health for all family members, leading to higher productivity on a long-term basis
- increased education for borrower's children as they are not required to drop out of school in order to supplement the family's income
- increased civic participation as a result of a heightened level of confidence and overall sense of self-worth

These benefits are cited extensively in microfinance literature, including by industry leaders such as FINCA and ACCION International. The social benefits are captured in terms of dollars lent to borrowers, as they are the outcome of the loan. The dollar amounts in the table below are taken from the financial projections for Prisma's loan portfolio. They represent the total number of dollars Prisma expects to lend in each year.

## Social Costs

Prisma has always borrowed capital at market rates, therefore eliminating the social cost of subsidies or grants often included as social costs in SROI analysis. We have included a small social cost that reflects loan loss due to our choice to make loans to extremely high-risk individuals. As our loan loss has historically been under 1%, the estimated social cost per dollar lent of \$.05 used in the model reflects our acknowledgment that in undertaking an expansion strategy into new geographic markets, we run the risk of an increase in the loan loss rate. Even taking that into account, \$.05 is a generous estimate.

### Prisma's SROI Ratio: 2000 - 2004

	2000	2001	2002	2003	2004	TOTAL
<b>Benefits</b>	\$ 906,272	\$1,309,380	\$4,427,150	\$5,449,600	\$10,648,000	<b>\$22,740,402</b>
<b>PV of Benefits</b>	\$906,272	\$1,138,591	\$3,347,561	\$3,583,200	\$6,088,029	<b>\$15,063,654</b>
<b>Costs</b>	\$45,336	\$65,469	\$221,358	\$272,480	\$532,400	<b>\$1,137,043</b>
<b>Present Value of Costs</b>	\$45,336	\$56,930	\$167,378	\$179,160	\$304,401	<b>\$753,205</b>

**Present Value of Social Benefits/Present Value of Social Costs = \$15,063,654/753,205 = \$21**

A benefit/cost ratio of 21 means that for every unit of cost, 21 units of social benefit are derived. As the unit of measurement in this model is dollars, the social return can be assessed as \$21 of social benefit for every \$1 of social cost incurred.

The fact that Prisma's SROI ratio is as high as 21 indicates that in terms of benefit/cost analysis, it is an attractive project, with an extremely high social return on investment.

*FUTURE SROI ANALYSIS:* Ideally, Prisma would quantify its SROI in terms of the increase in income derived directly from the loan. Measuring income generated specifically from a Prisma loan is complicated in that it would involve measuring a portion of each borrower's increase in income, rather than their total income. This approach would require an in-depth understanding of loan usage and borrower's expenditures. We propose to develop this understanding through the qualitative methods described below.

A SROI analysis based on incremental increases in income would enable Prisma to project the increase per month in income over time. We would then calculate the social net present value of that increase and calculate the appropriate social internal rate of return.

## ■ Qualitative Analysis

Prisma has historically collected some of the information described below, such as customer finances, professional activities, age, and gender. Based on our experience, we believe the most effective way to gather information on a going forward basis is to administer questionnaires at the loan's beginning, closing, and annually thereafter (on a voluntary basis), in conjunction with qualitative interviews. These new methods will standardize the process of information gathering and enable Prisma to do more rigorous quantitative analysis, in addition to maintaining a clear sense of its customer base - even as it rapidly expands. Information gathered from customers will include both economic and social indicators.

#### 1) Economic Indicators

As bankers, we must make loans that are fiscally responsible and will be paid back. Therefore, we need to determine a borrower's financial status before, during, and at the end of the loan. During the loan application process, we will collect information about customers and their finances, including their professional activities, income, historical income, familial financial resources, and projected future income. This builds on the information Prisma currently collects, and believes is reasonable to collect in the future.

#### 2) Social Indicators

Because of the level of trust we establish with customers, they have been consistently helpful in providing information enabling us to track their status. At the time of the loan, social indicators including age, gender, economic condition of borrower, number of family members, and current income are provided. Throughout the term of the loan, it is easy to track the number of employees, business income, and changes in standard of living. This is done implicitly by following the timeliness of loan payments and seeing if loans payments are made on time, or late. Receipt of late payments usually indicates a change for the worse in the borrower's status. We will also begin using a standardize method for tracking the ongoing conversations Prisma staff has with customers, through which much information about social indicators is gathered. At the end of the loan, the same information will be formally gathered with an exit questionnaire. Plus, because of our active involvement in the communities we serve and the fact that many customers renew loans for additional working capital, we will be able to track social indicators longitudinally.

Information gathered through loan review, questionnaires, and interviews will be included in Prisma's Annual Report. This will enable our investors to track the SROI and ensure that we stay true to our mandate of doing well by doing good.

*"If we are looking for one single action  
which will enable the poor to overcome  
their poverty, I would focus on credit"*

*~ Dr. Muhammad Yunus  
Founder, The Grameen Bank*

Selected excerpts from:

## **Social Benefits of Public Transit**

### ***Evaluating Benefits and Costs of Public Transit Service***

**Victoria Transport Policy Institute**

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*This chapter describes factors to consider when evaluating public transit. It identifies various benefits that public transit service can provide, including improved mobility (particularly for people who are transportation disadvantaged), reduced traffic congestion, reduced road and parking facility cost savings, consumer cost savings, support for economic development and more efficient land use, and environmental benefits. Various factors affect the degree to which a particular transit service provides these benefits. Planning that focuses on just one or two objectives often undervalues the full benefits of public transit. More comprehensive planning, which considers a wider scope of benefits, tends to favor transit.*

#### **Motorist Benefits of Transit**

Critics often assume that there is a conflict between the interests of motorists and transit users. But motorists have many reasons to support public transit, as listed below.

#### **Ten Reasons for Motorists to Support Public Transit**

1. *Congestion Reduction.* Quality transit service that is attractive to discretionary travelers can be an effective way to reduce traffic congestion.
2. *Roadway and Parking Facility Cost Savings.* When all costs are considered, transit improvements are often cheaper than increasing road and parking facility capacity. This reduces costs to governments and businesses.
3. *Improve Choice.* Even people who don't currently use transit may value having it as a mobility option for emergencies and future use, just as ship passengers value having a lifeboat ([Evaluating Transportation Choice](#)).
4. *Consumer Cost Savings.* High-quality transit service, and transit-oriented land use, can provide hundreds or thousands of dollars a year in savings per household (McCann, 2000).
5. *Reduced Chauffeuring.* Quality transit service can reduce motorists' need to give rides to non-driving friends and family members.
6. *Safety Benefits.* Transit travel tends to have lower crash risk than automobile travel, reducing crash risks to transit riders and other road users ([Safety Impacts of TDM](#)).
7. *More Efficient Land Use.* Some land use patterns, including large commercial centers, multimodal neighborhoods, and some types of recreational centers, are only feasible with high quality transit service.
8. *Equity.* Transit provides basic mobility for people who are economically, physically and socially disadvantaged ([Evaluating TDM Equity](#)).
9. *Economic development.* Expenditures on transit tend to provide much more employment and regional business activity than consumer expenditures on automobiles and fuel ([TDM and Economic Development](#)).

10. *Environmental Benefits.* Transit consumes fewer resources and causes less pollution than automobile travel.

Critics sometimes imply that it is hypocritical or unfair for people to support transit if they don't currently use it (e.g., "Supporters simply want transit for other people to use, so they can continue driving"). This assumption is wrong. It is both rational and moral for citizens to support transit to improve mobility, choice and environmental protection for everybody, and so such options will be available in the future. There is no reason that support for transit should be limited just to people who have already changed their travel patterns. Put another way, over a typical lifecycle most people are likely to have periods when they rely on public transit to some degree. Even somebody who does not currently use transit may place a high value on having travel alternatives available for others, and for their own future use.

### **Common Errors Made When Comparing Highway and Transit Options**

Transportation planning frequently involves a choice between an automobile-oriented solution, such as increasing highway or parking facility capacity, and a public transit improvement. Below are some common errors that made when evaluating and comparing such options ([Comprehensive Planning](#)).

- *Ignoring parking costs.* Economic analysis of highways often ignores parking cost savings when calculating the benefits of reduced driving (see [Parking Pricing](#)). This underestimates the financial benefits to consumers of using alternative modes.
- *Ignoring vehicle ownership and distance-based depreciation costs.* Transportation economic models often consider only out-of-pocket costs such as fuel, tolls and parking fees when calculating the cost of driving (see [Transportation Costs](#)). This underestimates the financial benefits to consumers of using alternative modes.
- *Ignoring safety benefits.* Economic analysis often ignores potential reductions in crash costs that result from reduced driving ([Safety Impacts of TDM](#)). This underestimates the social benefits of using alternative modes.
- *Comparing average rather than marginal costs.* When comparing automobile and transit investments to address urban transportation problems, some analysts use overall average costs. But automobile costs are much higher than average in urban conditions, while public transit service tends to be most cost effective in these conditions due to economies of scale.
- *Ignoring generated traffic impacts* (see [Rebound Effects](#)). Failure to consider the effects of generated traffic tends to overstate the benefits of highway capacity expansion and understate the benefits of TDM solutions, particularly grade separated transit. The additional traffic that results when capacity is increased on a particular stretch of highway often increases downstream traffic congestion (congestion on surface streets and other highways), a cost that is avoided by TDM solutions.
- *Ignoring non-drivers interests.* Transportation planning is often made primarily from a motorist's perspective, with little consideration of impacts on non-drivers. The negative impacts of increased vehicle traffic and automobile-oriented land use are often ignored (see [Evaluating Nonmotorized Transport](#)).
- *Ignoring transportation choice benefits.* There are several benefits to having a diverse and balanced transportation system, some of which are difficult to measure (see [Evaluating Transportation Choice](#)). Some of these benefits tend to be overlooked in transportation planning. This tends to favor highway investments over transit options.

- *Ignoring strategic land use objectives.* Transportation decisions can have significant impacts on land use (see [Land Use Impacts on Transportation](#)). Increased road and parking capacity tends to create lower-density, automobile-dependent land use patterns. Transportation planners often ignore strategic land use objectives when evaluating options.
- *Ignoring synergistic effects of TDM.* A transit option that does not appear justified under current conditions may become cost effective if implemented as part of a coordinated TDM program. For example, a transit service may become more cost effective if implemented with [Commute Trip Reduction](#) programs, [Congestion Pricing](#), [Parking Management](#) and [Location Efficient Development](#).
- *Ignoring construction impacts.* Construction projects often impose significant traffic delay (McCann, et al, 1999). Increased transit speeds tend to reduce traffic congestion on parallel highways. These impacts are often ignored in transportation project evaluation.
- *Mixing equity and efficiency objectives.* Alternative modes are subsidized for both equity and efficiency objectives. As a result, some improvements to alternative modes may appear inefficient (e.g., off-peak service, accommodating people with disabilities), while others may appear to be inequitable (e.g., premium rail service designed to attract commuters out of their cars).

*Example*

The example below summarizes an actual comparison what was made between highway capacity expansion and a transit project to reduce congestion between a city and nearby suburbs. The analysis gave no consideration to the parking cost savings and reduced surface street traffic congestion that result when people travel by transit rather than automobile. Construction traffic delays and the effects of generated traffic were ignored. The analysis assumed that each commuter has a car that would be unused if they use transit, ignoring potential vehicle ownership. It gave no weight to equity benefits from increased travel choices to non-drivers, or to strategic land use objectives, such as the ability of rail transit to reduce urban sprawl.

The conventional analysis concludes that highway capacity expansion is most cost effective. But a more comprehensive analysis shows the transit option actually provides greater net benefits, as illustrated in Table 5.

**Table 5 Costs Often Overlooked in Conventional Planning**

<b>Costs Considered</b>	<b>Millions</b>	<b>Totals</b>
Light Rail	\$300	
Highway Expansion	\$250	
<b>Highway Net Benefits</b>		<b>\$50</b>
<b>Transit Benefits Not Considered</b>		
Parking Cost Savings (3,000 urban parking spaces at \$10,000 each)	\$30	
Surface street traffic congestion (3,000 additional vehicles traveling 6 miles per day, 300 days annually, at 20¢ per mile)	\$20	
Vehicle Ownership Costs (\$500 annual savings per transit user)	\$29	
Highway Construction Delays	\$2	
Generated Traffic (reduces highway net benefits)	Probably Substantial	
Environmental & Social Benefits	Probably Substantial	
<b>Transit Net Benefits</b>		<b>\$30+</b>