

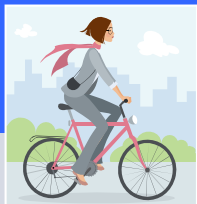
# *Calculating the* **ROI of TDM** *for* **Physical Activity** *in Arlington, VA*

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**Simple Solutions Planning & Design, LLC**

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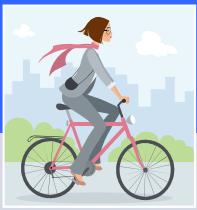


# Research Question

What is the  
**Return on Investment**  
of  
**Arlington's**  
**Transportation Demand Management**  
programs?



Benefits in terms of:  
Transportation Efficiency – VMT reduced  
Environmental Impact – Emissions reduced  
**Public Health & Safety – Mortality/Morbidity reduced**

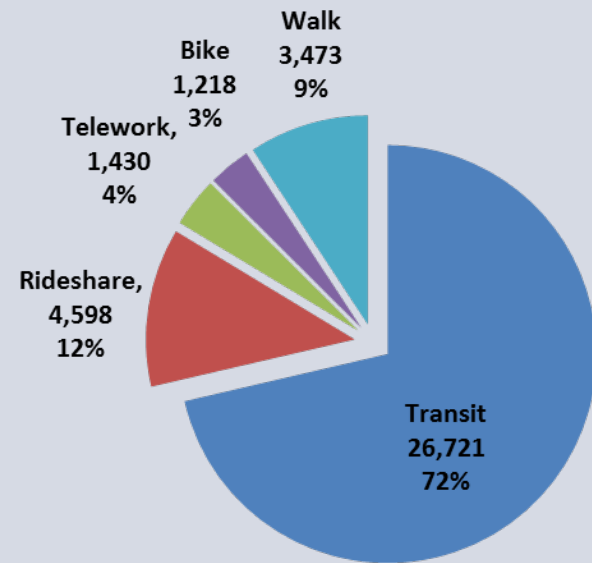


# TDM by Arlington County Commuter Services

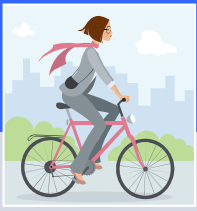
## Arlington County Commuter Services Programs

- WalkArlington
- BikeArlington
- Capital Bikeshare
- Zipcar
- Car Free Diet
- Arlington Transportation Partners
- CommuterPage.com
- The Commuter Store

## Trips Converted from Single-Occupant Vehicles by Arlington's TDM Programs



*Based on FY 2013 ACCS Data*



# Objectives of Arlington's TDM Programs

TDM programs help make multimodal travel:

## More Active

*By Organizing or Providing*

- Walk & Bike Events
- Bikeshare system

## More Accessible

*By Offering*

- Maps & Schedules
- Training Classes
- Transportation Fairs
- Marketing & Promotion

## Safer or Wiser

*By Providing*

- Bike Safety Classes
- Clothing & Equipment
- Walk/Bike to School Day

## More Affordable

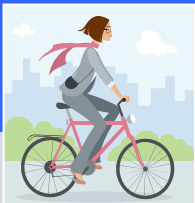
*By Facilitating Subsidies For*

- Transit
- Biking
- Carpool/Vanpool

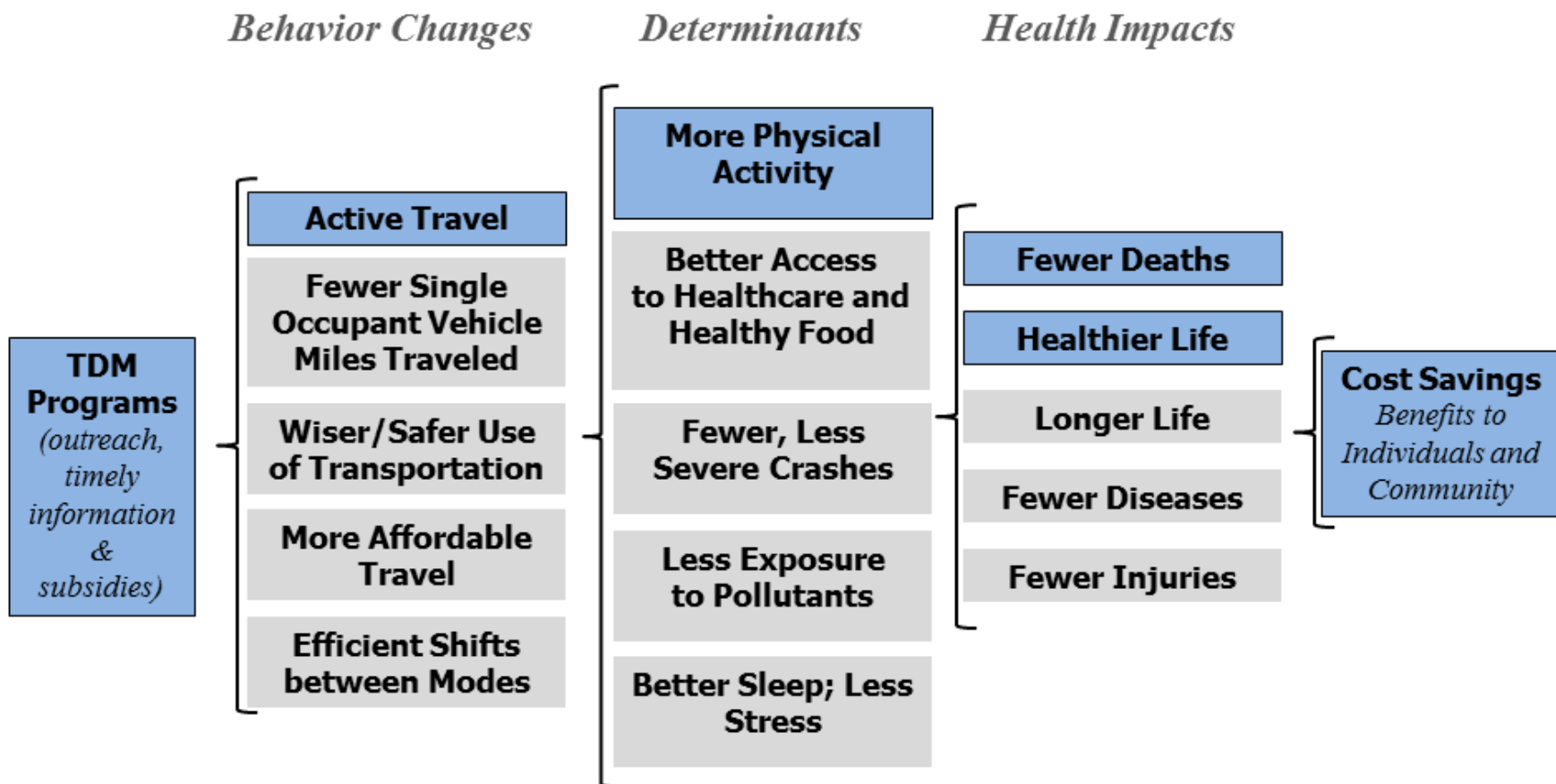
## More Convenient

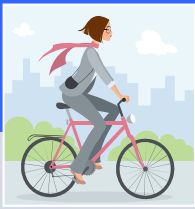
*By Requiring or Facilitating Provision Of*

- Bike Parking
- Work-site Showers
- Shuttles to Transit Stations
- Apps/Real-time information on connections



# Charting the Influence





# Selection of Cost Calculators

## **Available data:**

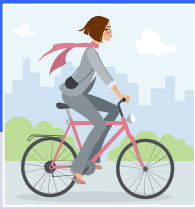
Increased physical activity due to TDM programs was measured as:

- Trips shifted from driving mode to active mode
- New miles walked or biked
- New minutes walked or biked

## **Comprehensive Cost-Savings Required:**

Benefits to be calculated for:

- Reduced mortality and morbidity
- Internal (individual) and External (community)



# Physical Activity Benefit Calculators

## Health Economic Assessment Tool (HEAT)

[www.heatwalkingcycling.org](http://www.heatwalkingcycling.org)

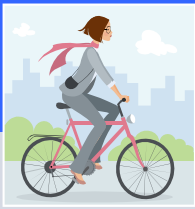
Calculates the savings of reduced mortality due to increased physical activity, specifically walking and bicycling.

Key Variables:

Study Population = 2,200 (1% of Arlington adults)

US Mortality Rate = 794 deaths per 100,000 people

Value of a Statistical Life = \$5.8 million



# Physical Activity Benefit Calculators

## Physical Inactivity Cost Calculator (PICC)

[www.ecu.edu/picostcalc](http://www.ecu.edu/picostcalc)

Estimates economic losses of reduced morbidity to calculate external benefits of increased physical activity

- medical costs for injuries
- workers' compensation
- lost productivity

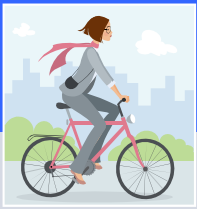
Key Variables:

Median annual income = \$ 85,600

Prevalence on Inactivity = 17% (2009 County Health Rankings)

% of adults over age 65 = 11%

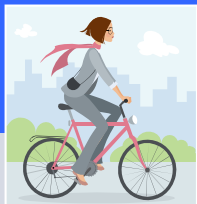




# Economic Benefits of Active Travel

If an additional 1% of Arlington adults started getting the CDC-recommended levels of physical activity by walking or biking for their daily commute, the annual cost savings would be:

- \$7.5 million in the first year due to reduced mortality
- \$12 million per year due to reductions in lost productivity, workers' compensation claims, and medical costs of injuries



# Lessons Learned



**Public transit**



**Active transportation**

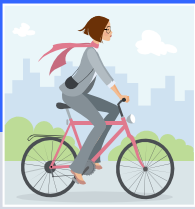


**Multi-occupancy vehicles**

## Transportation Demand Management: A Public Health Intervention



- Increased physical activity
- Increased safety and security
- Better access to healthcare & healthy food
- Better quality of the environment
- Better mental health

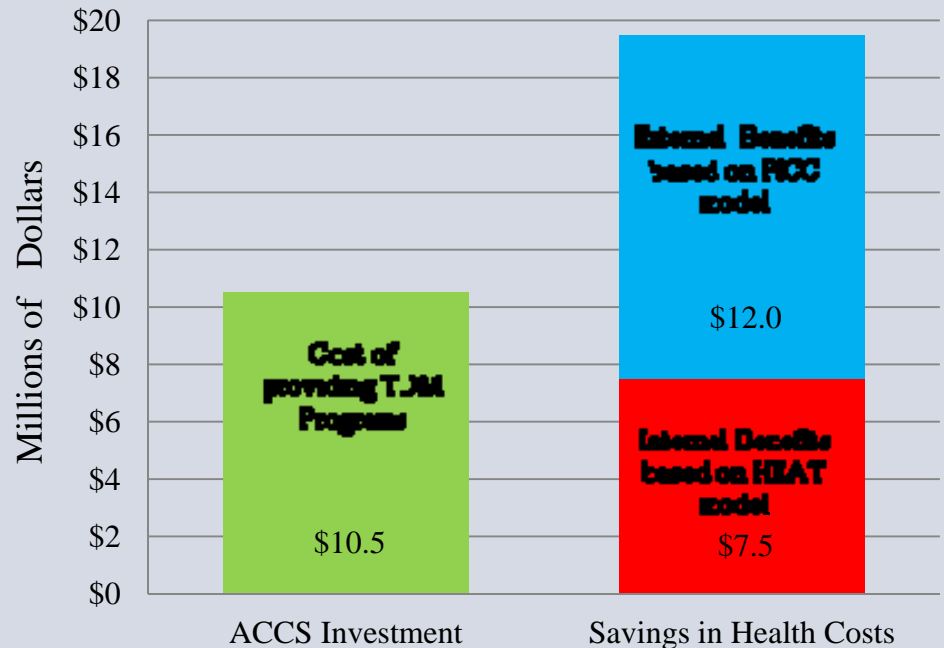


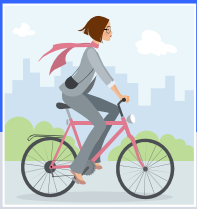
# Lessons Learned

**The return on investment was almost 200%**

when the annual cost of providing TDM programs in Arlington was compared to the physical activity benefits calculated based on the HEAT and PICC models.

**Return on investment of ACCS programs for public health due to increased physical activity.**





# Lessons Learned

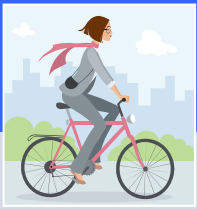
**Increased productivity and presenteeism accounted for almost half the cost savings.**

Arlington has a:

- High median income
- More physically active population (%)

## **Insight:**

Arlington's employers play a major role by supporting healthy commuting and reducing physical inactivity at work.



# Lessons Learned

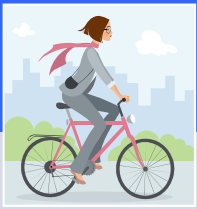
**Cost savings calculators can play a major role in promoting healthy policies.**

Criteria for selection of tools for this project:

- Easy to understand and use
- Easily available to download and customize
  - Factors and assumptions transparent

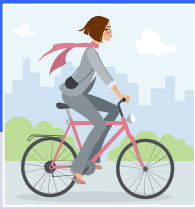
## **Insight:**

Cost effectiveness calculations clarified the pathways an initial investment in transportation services can result in public health benefits.



## Next Steps / Goals

- Develop and adopt an annual performance monitoring methodology
- Report public health benefits alongside traditionally reported impacts
- Enhance routine surveys and data collection to include health and safety
- Encourage collaboration with other departments to work towards common goals
- Advocate for evaluation of health impacts of all transportation projects and programs
- Conduct a complete Health Impact Assessment (HIA)



Contact us at:

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## Mobility Lab [MobilityLab.org](http://MobilityLab.org)

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