

# Trans-Canada Highway Wildlife Monitoring and Research *Final Report 2014* *Part A: Project Overview & Financial Summary*

Prepared by the Western Transportation Institute at Montana State  
University and the Miistakis Institute

April 2014



*A Report of the Wildlife and Transportation Research in the Rocky Mountains Project*

This document should be cited as:

Duke D. 2014. Trans-Canada Highway Wildlife and Monitoring Research, Final Report 2014 (Part A). Prepared for Parks Canada Agency, Radium Hot Springs, British Columbia.



MIISTAKIS  
INSTITUTE



MONTANA  
STATE UNIVERSITY  
Western Transportation  
Institute

Contents

**ABSTRACT ..... 3**

**I. PROJECT OVERVIEW ..... 4**

    1. BACKGROUND..... 5

    2. DELIVERABLES..... 8

    3. PARTNERS..... 9

**II. FINANCIAL REPORT ..... 11**

    FINANCIAL FRAMEWORK..... 11

    VARIANCES..... 12

---

## ABSTRACT

---

In April 2009, Parks Canada entered into a Contribution Agreement with the Miistakis Institute for the implementation of the Wildlife and Transportation Monitoring and Research in the Rocky Mountains Project. The purpose of this project was to create and implement a wildlife monitoring and research plan to facilitate road ecology monitoring and research on the Trans-Canada Highway (TCH) through Banff National Park, with the ultimate goal of reducing wildlife-vehicle collisions and improving habitat connectivity and genetic interchange for key species.

Research and monitoring activities concluded in 2014. The final project report consists of three separate documents:

- Summary overview including financial report (Part A)
- Research Report (Part B)
- Communication and Outreach report (Part C)

This document comprises Part A, the summary overview and financial report.

## I. PROJECT OVERVIEW

---

In April 2009, Parks Canada entered into a Contribution Agreement with the Miistakis Institute for the implementation of the Wildlife and Transportation Monitoring and Research in the Rocky Mountains Project. The purpose of this project was to create and implement a wildlife monitoring and research plan to facilitate road ecology monitoring and research on the Trans-Canada Highway (TCH) through Banff National Park, with the ultimate goal of reducing wildlife-vehicle collisions and improving habitat connectivity and genetic interchange for key species.

The Contribution Agreement was the result of the Miistakis Institute, Parks Canada Agency, the Western Transportation Institute, the Woodcock Foundation, and the Wilburforce Foundation coming together to establish a collaborative working relationship in support of the ongoing development and implementation of wildlife monitoring and research in the Rocky Mountains related to the ecological consequences of surface transportation systems. Specifically, the parties agreed to jointly undertake or support the following goals:

- To promote world-class research and improved understanding of the interaction of wildlife and human transportation systems in the Rocky Mountains;
- To apply that understanding to the mitigation of ecological and human safety impacts arising from the wildlife-vehicle interaction in the Rocky Mountains;
- To transfer transportation design and operation information to, and from, other mountain ecosystems in North America and around the world; and
- To raise the profile of parties' involvement in and contribution to this world-class project.

The collaboration established a Steering Committee (including a member from each contributing organization) that developed an annual work plan and identified individual projects in support of the collaboration. This structure allowed for investment by all parties into projects. The Wildlife and Transportation Monitoring and Research in the Rocky Mountain Parks project was identified as a project by the Steering Committee. Project staff developed a project plan to outline required activities, including the identification of project goals and tasks, and regular communication with the Steering Committee.

Parks Canada Agency has several policies that direct or support the intent and design of this Contribution Agreement:

- Parks Canada Agency's *2009/10- 2013/14 Corporate Plan* states that through research, monitoring, active management and restoration initiatives, the Agency will continue to address conservation challenges in Canada's national parks. Strategic initiatives to demonstrate improvements in key indicators of ecological integrity will be devised and implemented.
- Parks Canada Agency's *2008 Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas* recommends "Monitoring, evaluating, and adapting at a scale that is

appropriate (e.g., controls, reference or broader ecosystem) to capture ecosystem-level characteristics.”

- The Parks Canada *Guiding Principles and Operating Policies* identifies the following principle: “Management decisions are based on the best available knowledge, supported by a wide range of research, including a commitment to integrated scientific monitoring.”

## 1. Background

Transportation networks present challenges for wildlife by interrupting movement patterns, alienating animals from critical habitat, and causing genetic isolation. Wildlife are also threatened by direct mortality from collisions with vehicles or trains. The effects reach beyond individual wildlife populations and pose broader conservation, economic and social consequences, including a considerable human safety risk from wildlife-vehicle collisions.

These issues are highly significant in the Rocky Mountains, where wildlife-vehicle collision and wildlife-train strike rates are high and the barrier effect may have severe consequences on movement opportunities, especially for wide-ranging carnivores such as grizzly bears, cougars and wolves. The design and operation of the transportation infrastructure also pose connectivity issues for many terrestrial and aquatic species. As the Rocky Mountain region is one of Canada’s few remaining ecologically functional greater ecosystems, these issues have garnered the attention of the transportation and natural resource agencies, academics, the conservation community and popular media at the local, regional, national and international levels.

The linear nature of transportation systems creates a suite of issues for transportation professionals as they seek to ameliorate impacts of projects on environmental quality. Roads and railways often slice through a series of habitats and hydrological features making mitigation a complex task. In addition, the context of the surrounding land base is an important consideration for transportation professionals.

Addressing these challenges requires access to timely, accurate information on the temporal and spatial patterns of wildlife along our major transportation systems within the Canadian Rockies. Basic ecological information for the best types or methods of mitigation for particular species or habitats is often lacking. Standards and best management practices for transportation design have not been articulated for many natural resources, habitats or species.

Transportation ecology is a rapidly emerging discipline that is grappling with surface transportation infrastructure and its impacts on wildlife, aquatic resources, habitat connectivity and many other environmental values. Banff National Park and its environs

represent one of the best testing sites of innovative transportation infrastructure mitigation (wildlife passages) in the world, as there is significant transportation infrastructure, as well as a variety of wildlife underpasses and overpasses that have helped maintain large mammal populations.

The combined effects of a twinned highway with multiple lanes of traffic at higher speeds on the Trans-Canada Highway in Banff National Park stand to threaten and fragment wildlife habitat and populations (Golder Associates 2004)<sup>1</sup>. Parks Canada Agency and the Highway Service Centre have built environmental mitigations to correct these impacts by enhancing ecological connectivity throughout the Phase IIIB project area to link habitats for multiple species and ecological processes over time. The desired ecological condition requires reducing risks of road-related mortality of wildlife, improving the permeability of the highway for all organisms, and providing for the long-term sustainability of populations in the area.

The wildlife assessment for species selected as valued ecosystem components (VECs) considered three types of impacts to wildlife populations: habitat loss, habitat connectivity, and wildlife mortality. Monitoring is required to further elucidate the interactions of VECs with environmental mitigation, so that the impact predictions of the environmental assessment can be validated (Golder Associates 2004). The Golder report indicates that monitoring should include:

- Wildlife use of crossing structures
- Habitat connectivity and genetic interchange for key species
- Population-level monitoring for wide-ranging species in regional study areas (wolverine, lynx and grizzly bears in particular)
- Human use of crossing structures and wildlife reactions to this use.

Research assessing the performance of the Banff National Park wildlife–roadway mitigation structures was initiated in 1996, and has proven to be of international importance. A long-standing program of scientific research, monitoring, and evaluation has played a critical role assessing the design, development, placement and performance of the Trans-Canada Highway mitigation. The initial five-year study, documented in a >400 page report to Parks Canada, made recommendations for placement and design of wildlife crossings on Phase IIIB.

This research was supported initially by Parks Canada’s Highways Service Centre, two Parks Canada field units (Banff and Lake Louise/Yoho/Kootenay) and Parks Canada’s National Office. A unique partnership between Parks Canada Agency, the Western Transportation Institute, and three conservation-oriented foundations (the Woodcock, Wilburforce and Henry P.

---

<sup>1</sup> Golder Associates. 2004. *Screening report for the Trans-Canada Highway twinning project phase IIIB, Banff National Park*. Report for Parks Canada, Banff National Park, Alberta.

Kendall Foundations) was then created, bringing together Parks Canada's commitment, world-class expertise, and philanthropic support, and providing a 2:1 match for every Parks Canada dollar.

Since 2005, this international public-private partnership has contributed \$2 million to support the research studying the impacts of the TCH and evaluating the performance of mitigation aimed at maintaining ecological integrity in Canada's premier national park. The resulting research has generated more than 25 scientific papers in peer-reviewed journals, and been crucial in the design, planning and placement of wildlife mitigation structures along the Trans-Canada Highway through Banff National Park.

The Wildlife and Transportation Monitoring and Research in the Rocky Mountains Project built on the success and contributions of this past research. The Project Team developed research goals for this project that aligned with those of the Parks Canada Agency for monitoring and research on wildlife crossing structures in Banff National Park. The goals of the project were:

- Habitat connectivity and genetic interchange are improved for key species across the Trans-Canada Highway transportation corridor;
- Wildlife-vehicle collisions are reduced on the Trans-Canada Highway through the mountain parks; and
- Habitat connectivity and genetic interchange are improved and wildlife-vehicle collisions are reduced in other jurisdictions.

To meet the objectives outlined in the Environmental Screening document, a two-tiered approach to wildlife monitoring was used. Core monitoring and research evaluated basic transportation management questions regarding the performance of crossing structures and fencing (such as changes in wildlife-vehicle collisions and use of new crossing structures). A second tier built on the results of core monitoring and research to address more complex questions about the effects of the twinning project on wildlife populations.

Core monitoring and research objectives were selected based on the goals of Parks Canada Agency and the Highway Service Centre to assess the performance of connectivity measures associated with the TCH Twinning Phase IIIB Project. The second tier research projects helped to further examine objectives for increasing connectivity by the project as defined by the goal of Parks Canada Agency to conserve and maintain landscape-scale ecological integrity in the park ecosystem.

Core monitoring and research objectives included:

1. Characterize the locations and the rate of wildlife-vehicle collisions
2. Restore population-level movements across the TCH



3. Identify key wildlife crossing design criteria and animal response to design types
4. Evaluate whether wildlife use new or modified culverts and their configurations
5. Restore harlequin duck movements across the TCH phase III B
6. Assess the effectiveness of wildlife fencing and Texas gates

Second tier research focused on landscape and ecologically-based research and was intended to complement core monitoring and research by providing a more comprehensive understanding of how the connectivity measures perform. Second tier research required collaboration between the Miistakis Institute for the Rockies, Parks Canada Agency, the Western Transportation Institute and other entities. Importantly, second tier efforts contributed to the advancement of the science of road ecology, particularly in relation to restoring connectivity across highways and furthering Parks Canada Agency's position as a world leader in highway mitigation.

In addition to the research and monitoring component of the project, the Project Team also identified the need for a communication strategy to support the goals of the monitoring and research project, in alignment with communication needs of the collaborative, and those of the individual partners. The agreed-upon communication goals were:

- Trans-Canada Highway wildlife mitigation structures and practices are supported by decision-makers;
- Connectivity research and monitoring for the Trans-Canada Highway through the mountain parks is sustainable;
- Wildlife mitigation structures are respected and supported by local communities, visitors, and road-through traffic; and
- Transportation ecology learnings are transferred and applied in other jurisdictions.

## 2. Deliverables

The project plan identified the following specific deliverables for the Wildlife and Transportation Monitoring and Research in the Rocky Mountains Project:

- A written report outlining research results relative to each core monitoring and research objective, as well as to the broader understanding of the effects of the twinning project and connectivity measures on landscape-scale ecological integrity.
- Presentations at public and academic venues outlining both the research approach and the evolving results.

- Communication materials (written, visual, exhibit) to support general and targeted awareness regarding highway mitigation research and implementation.

Deliverables are presented in three separate documents:

1. Summary overview including financial report (this Final Report, Part A)
2. Research Report (see attached Part B)
3. Communication and Outreach report (see attached Part C)

### 3. Partners

#### The Miistakis Institute for the Rockies:

The Miistakis Institute for the Rockies provided project management expertise to execute the Wildlife and Transportation Monitoring and Research in the Rocky Mountain Parks Project.

Project management responsibilities included:

- Coordination of all project partners
- Quarterly reporting (narrative and financial) to Parks Canada
- Financial management
- Preparation and management of all sub-contractor grants and invoices
- Correspondence with project funders
- Preparation of all reporting documents

As the recipient of funds, the Miistakis Institute for the Rockies provided reports to funding organizations in the manner prescribed under various funding agreements.

#### Parks Canada:

Parks Canada Agency (PCA) took a leadership role in establishing the Wildlife and Transportation Monitoring and Research in the Rocky Mountain Parks Project, and actively participated on the Steering Committee, providing input and oversight for sub-project work. Parks Canada forwarded appropriate funding for the Project on a quarterly basis, based on the Project Plan budget.

#### Western Transportation Institute:

The Western Transportation Institute (WTI) also took a leadership role in establishing the Wildlife and Transportation Monitoring and Research collaboration, and actively participated on the Steering Committee, providing input and oversight for project work. Tony Clevenger of WTI was the Principal Researcher on the project and led the development of the monitoring

and research plan. The Western Transportation Institute also worked with the Miistakis Institute to coordinate the engagement of partners and securement of additional funding.

## II. FINANCIAL REPORT

---

The Parks Canada Agency, the Western Transportation Institute and the Woodcock Foundation provided the primary sources of funding for the Project, with each agency committing significant multi-year support. Beyond that, a number of philanthropic foundations made year-to-year contributions. The committed funding by Parks Canada and the Western Transportation Institute was largely directed at the research and monitoring activities, leaving the communications and outreach activities as the main area in need of additional support.

### 1. *Financial Framework*

The financial framework for the Project comprised fiscal information from multiple organizations. The Miistakis Institute led the funding management; however, the Institute also needed to track several financial relationships, many of which were “external” to the Miistakis Institute. They included:

- PCA grant to the Miistakis Institute
- PCA direct expenditures on behalf of the Project
- Philanthropic grants to Miistakis on behalf of the Project
- Philanthropic grants to WTI on behalf of the Project
- WTI direct expenditures on behalf of the Project

Each of these is represented in the financial tracking undertaken by Miistakis.

#### *Tracking of Parks Canada Agency Financial Information*

The contributions to the Project by the Parks Canada Agency represent another level of complexity, some – but not all – of which was tracked by the Miistakis Institute. Funding from PCA comes from three sources: the Highway Service Centre (HSC), the Banff Field Unit (Banff), and the Lake Louise, Yoho, Kootenay Field Unit (LLYK).

The Miistakis Institute was responsible for tracking the targeted revenues and associated expenditures from the HSC, and collectively from the Field Units. However, the Institute was not accountable for reconciling the relative amounts from the two Field Units ( Banff vs. LLYK).

Table 1: Budget to Actuals Contribution Agreement

|  | <b>BUDGET</b>        | <b>ACTUAL</b>      | <b>BUDGET</b>                | <b>ACTUAL</b>    | <b>BUDGET</b>        | <b>ACTUAL</b>      |
|--|----------------------|--------------------|------------------------------|------------------|----------------------|--------------------|
| <b>Eligible Cost Category</b>  | <b>Parks Canada</b>  |                    | <b>Other Funding Sources</b> |                  | <b>Project Total</b> |                    |
| <i>Itemized Expenses per Cost Category</i>                                     | <i>Dollar Amount</i> |                    | <i>Dollar Amount</i>         |                  | <i>Dollar Amount</i> |                    |
| Cost of goods, related shipping or transportation costs                        | \$0                  |                    | \$0                          |                  | \$0                  |                    |
| Travel   | \$0                  | \$1000             | \$57,500                     | \$6566           | \$57,500             | \$7566             |
| Cost of services (salaries & benefits of staff and \or cost of subcontractors) | \$908,800            | \$789,259          | \$589,100                    | \$629,523        | \$1,497,900          | \$1,418,782        |
| Cost of equipment & related installation & maintenance                         | \$91,200             | \$209,741          | \$95,800                     | \$97,729         | \$187,000            | \$307,470          |
| Other expenses   | \$0                  |                    | \$0                          |                  | \$0                  |                    |
| <b>Total</b>   | <b>\$1,000,000</b>   | <b>\$1,000,000</b> | <b>\$742,400</b>             | <b>\$733,818</b> | <b>\$1,742,400</b>   | <b>\$1,733,818</b> |

## 2. Variances

There were significant variances from original budgeted Travel amounts (\$57,500); this was due to re-categorization of Travel expenses. Early on in the project, the Steering Committee approved a change to incorporate some travel expenses (including gas purchases, vehicle purchases, maintenance, and mileage) into the Field Equipment and Supplies category. The

Travel category (as shown in Table 1) includes expenses for staff travel to project meetings and presentations.

The cost for services was slightly lower than budgeted (\$1,497,900 budgeted compared to \$1,418,782 actual). In the original budget, an additional field technician was proposed for Year 3, but additional funding sources external to Parks Canada agency were not secured.

Costs for equipment were higher than budgeted (\$307,470 actual compared to \$187,000 budgeted) due to unanticipated equipment needs. The original budget plan did not include vehicle purchases (at a cost of \$ 45,335). Additionally, the need for helicopter support was not anticipated, which resulted in a cost of \$25,997.85. Table 2 provides a more detailed summary of project expenses.

The Western Transportation Institute (WTI) and the Miistakis Institute (MIR) shared the role and responsibilities for maintaining the existing partnership and proactively seeking worthwhile opportunities to expand the partnership.

**WILDLIFE AND TRANSPORTATION RESEARCH IN THE ROCKY MOUNTAINS**

**Financial Report - 2009-2014 (Summary)**

| Expense / Revenue                            | PROJECT      |              |             | PCA - Highway Service Centre |            |               | PCA - Field Units |           |            | PCA - Total |            |             |
|--|--------------|--------------|-------------|------------------------------|------------|---------------|-------------------|-----------|------------|-------------|------------|-------------|
|  | Budget       | Actual       | Variance    | Budget                       | Actual     | Variance      | Budget            | Actual    | Variance   | Budget      | Actual     | Variance    |
| <b>Expenses</b>                              |              |              |             |                              |            |               |                   |           |            |             |            |             |
| <b>Field Work - Salaries</b>                 |              |              |             |                              |            |               |                   |           |            |             |            |             |
| Princ. Invsigr, Research Assoc., field techs | 898,686.00   | 855,236.11   | 43,449.89   | 631,800.00                   | 592,921.67 | 38,878.33     | 37,300.00         | 26,513.00 | 10,787.00  | 669,100.00  | 619,434.67 | 49,665.33   |
| <b>DNA</b>                                   |              |              |             |                              |            |               |                   |           |            |             |            |             |
| DNA costs (estim.): Lynx, Gulo, Bears, Hels  | 62,900.00    | 56,440.72    | 6,459.28    | 11,500.00                    | 14,504.18  | (3,004.18)    | 29,100.00         | 20,293.21 | 8,806.79   | 40,600.00   | 34,797.39  | 5,802.61    |
| <b>Field Equipment and Supplies</b>          |              |              |             |                              |            |               |                   |           |            |             |            |             |
| Vehicle purchase, fuel, maintenance          | 140,074.37   | 81,335.75    | 58,738.62   | 22,200.00                    | 10,817.43  | 11,382.57     | 72,969.00         | 63,734.84 | 9,234.16   | 95,169.00   | 74,552.27  | 20,616.73   |
| Field equipment, supplies, DNA supplies      | 63,050.00    | 70,543.54    | (7,493.54)  | 11,702.00                    | 30,848.43  | (19,146.43)   | 33,548.00         | 33,098.11 | 449.89     | 45,250.00   | 63,946.54  | (18,696.54) |
| Field crew accommodation                     | 19,450.00    | 19,452.00    | (2.00)      | -                            | -          | -             | 19,450.00         | 19,452.00 | (2.00)     | 19,450.00   | 19,452.00  | (2.00)      |
| Helicopter Support                           | 32,852.00    | 25,997.85    | 6,854.15    | 6,000.00                     | 7,533.32   | (1,533.32)    | 10,552.00         | 6,398.74  | 4,153.26   | 16,552.00   | 13,932.06  | 2,619.94    |
| <b>Partnerships and project management</b>   |              |              |             |                              |            |               |                   |           |            |             |            |             |
| Miistakis                                    | 119,000.00   | 119,000.00   | -           | 119,000.00                   | 119,000.00 | -             | -                 | -         | -          | 119,000.00  | 119,000.00 | -           |
| WTI  | 102,895.00   | 115,564.00   | (12,669.00) | 2,500.00                     | 2,500.00   | -             | 8,200.00          | 8,300.00  | (100.00)   | 10,700.00   | 10,800.00  | (100.00)    |
| Travel                                       | 7,286.00     | 7,565.76     | (279.76)    | 1,000.00                     | 1,000.00   | -             | -                 | -         | -          | 1,000.00    | 1,000.00   | -           |
| Office Space                                 | 36,920.00    | 34,521.00    | 2,399.00    | -                            | -          | -             | -                 | -         | -          | -           | -          | -           |
| <b>Communications</b>                        |              |              |             |                              |            |               |                   |           |            |             |            |             |
| Execution of communication strategy          | 292,922.10   | 307,656.25   | (14,734.15) | 2,000.00                     | 3,349.00   | (1,349.00)    | 25,350.00         | 17,350.00 | 8,000.00   | 27,350.00   | 20,699.00  | 6,651.00    |
| Workshops, conferences and publications      | 17,490.00    | 19,179.57    | (1,689.57)  | -                            | -          | -             | 2,000.00          | 3,060.33  | (1,060.33) | 2,000.00    | 3,060.33   | (1,060.33)  |
| Coordination with Parks Canada               | 17,258.00    | 21,325.50    | (4,067.50)  | 15,258.00                    | 18,325.50  | (3,067.50)    | -                 | 1,000.00  | (1,000.00) | 15,258.00   | 19,325.50  | (4,067.50)  |
|  | 1,810,783.47 | 1,733,818.05 | 76,965.42   | 822,960                      | 800,800    | 22,160        | 238,469           | 199,200   | 39,269     | 1,061,429   | 1,000,000  | 61,429      |
|  |              |              |             |                              |            | <b>NOTE 1</b> |                   |           |            |             |            |             |
| <b>Revenues</b>                              |              |              |             |                              |            |               |                   |           |            |             |            |             |
| Parks Canada - Highway Service Centre        | 822,960.00   | 800,800.00   |             |                              |            |               |                   |           |            |             |            |             |
| Parks Canada - Field Units                   | 238,469.00   | 199,200.00   |             |                              |            |               |                   |           |            |             |            |             |
| WTI - Univ. Transp. Center Funding           | 225,050.00   | 225,050.00   |             |                              |            |               |                   |           |            |             |            |             |
| WTI - UTC In Kind                            | 72,376.00    | 72,376.00    |             |                              |            |               |                   |           |            |             |            |             |
| Woodcock Foundation                          | 166,500.00   | 166,500.00   |             |                              |            |               |                   |           |            |             |            |             |
| Wilburforce Foundation                       | 75,000.00    | 26,749.00    |             |                              |            |               |                   |           |            |             |            |             |
| Other  | 210,428.47   | 243,143.05   |             |                              |            |               |                   |           |            |             |            |             |
|  | 1,810,783.47 | 1,733,818.05 |             |                              |            |               |                   |           |            |             |            |             |

NOTE 1: The discrepancies between budget amounts and actuals for both the Highway Service Centre and Field Units were due to the additive effect of carry-over amounts that occurred during each year. For example, the carry-over amount for the HSC from Year 1 was \$5700, from Year 2 was \$13382 and from Year 3 was \$3077. These amounts total \$22,160, which equals the total discrepancy between the budgeted amount and actuals. The same discrepancy issue applies to the budget amounts for the Field Units.

Other contributions included grants and philanthropic donations from the following:

- McLean Foundation
- Patagonia
- Alberta Sport Parks Recreation and Wildlife Foundation
- Greygates Foundation
- TD Friends of the Environment Foundation
- Shell Environment Foundation
- Small Change Fund
- National Geographic Society
- Disney Wildlife Conservation Fund
- John and Barbara Poole Family Funds at Edmonton Community Foundation
- Bow Valley Naturalists
- Yellowstone to Yukon Conservation Initiative
- Calgary Foundation
- Private Donations (2)
- Mountain Equipment Coop
- Lake O'Hara Lodge
- Alpine Club of Canada
- Wilburforce Foundation

These additional sources of revenue, combined with contributions from the Western Transportation Institute (\$297,426) and the Woodcock Foundation (\$166,500) represent \$733,818 in external funding, highlighting the leverage impact of PCA contributions. Originally, the required amount of additional external funding was estimated at \$84,900, because at the inception of the project the Western Transportation Institute projected a contribution of \$415,000 and the actual amount was just under \$300,000. Similarly, the Wilburforce Foundation was budgeted to contribute \$75,000 and the actual contribution was \$26,749.

Table 3: External Funding Sources

| External Funding                 | Budget           | Actual           |
|----------------------------------|------------------|------------------|
| Western Transportation Institute | \$415,000        | \$297,426        |
| Woodcock Foundation              | \$167,500        | \$166,500        |
| Wilburforce Foundation           | \$75,000         | \$26,749         |
| Other                            | \$84,900         | \$243,143        |
| <b>TOTAL</b>                     | <b>\$742,400</b> | <b>\$733,818</b> |



