The World Bank
Sustainable Transport and Air Quality (P114012)

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Implementing Agencies: Banobras, Secretaría de Desarrollo Agrario, Territorial y Urbano (SEDATU)

Key Dates

Key Project Dates
Bank Approval Date: 23-Dec-2009
Planned Mid Term Review Date: 15-Oct-2012
Original Closing Date: 31-Dec-2013

Effectiveness Date: 24-Feb-2011
Actual Mid-Term Review Date: 15-Oct-2012
Revised Closing Date: 30-Nov-2015

Global Environmental Objectives

Global Environmental Objective (from Project Appraisal Document)
The objective of the Project is to assist the Selected Municipalities to: (i) reduce GHG emissions growth rates by fostering long term increases in the use of less energy intensive transport modes; and (ii) induce policy changes in favor of sustainable transport projects.

Has the Global Environmental Objective been changed since Board Approval of the Project Objective?
No

Components

Name
Window Component 1: Freight Management:(Cost $0.12 M)
Window Component 2: Land Use/ Transport Coordination:(Cost $0.20 M)
Window Component 3: Public Transport Enhancement:(Cost $3.82 M)
Window Component 4: Non-Motorized Transport:(Cost $1.11 M)
Project Management:(Cost $0.11 M)

Overall Ratings

Name
Progress towards achievement of GEO
Overall Implementation Progress (IP)
Overall Risk Rating

Previous Rating
Satisfactory
Moderately Satisfactory
Moderate

Current Rating
Moderately Satisfactory
Moderately Satisfactory
Moderate
Implementation Status and Key Decisions

Project Performance. The Progress towards the achievement of GEO rating has been downgraded to MS because not all PDO indicators have reached their target. The project finances 15 contracts for different studies of which all but two were already completed. The two remaining studies under execution will be partially financed with the final proceeds of the grant and complemented with local funds. Despite the studies have been completed, some of the recommendations are not yet implemented by the cities. As a result, the project has not yet achieved some of the indicator targets.

In coordination with SEDATU, the WB organized a workshop within the “11th International Congress of Cities and Transport” of the Center for Sustainable Transport EMBARQ Mexico from 12 to 14 October. The workshop theme “GEF funds: Donations to implement Sustainable Urban Mobility projects What are the benefits for the cities?” aimed to present and discuss the lessons learnt during the grant implementation.

During the final mission of the grant, SEDATU, BANOBRAS and the WB met with the subnational governments, implementation agencies and consultants involved in the development of the GEF studies to identify the lessons learnt during the implementation of the grant and the challenges related to the execution of these studies.

There are two studies under implementation: Corredor Tecnologico BRT feasibility studies in Juarez, and Ajustes a Corredor Torres Landa y Repavimentación Miguel Hidalgo in Leon. The rest of the activities have been completed. These two remaining studies will be partially supported by the grant and completed with subnational counterpart funds after the grant closing date.

Risks
Systematic Operations Risk-rating Tool

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Rating at Approval</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
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<tbody>
<tr>
<td>Political and Governance</td>
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<td>Moderate</td>
</tr>
<tr>
<td>Macroeconomic</td>
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<td>Moderate</td>
</tr>
<tr>
<td>Sector Strategies and Policies</td>
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<td>Moderate</td>
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<tr>
<td>Technical Design of Project or Program</td>
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<td>Moderate</td>
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<tr>
<td>Institutional Capacity for Implementation and Sustainability</td>
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<tr>
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<td>Other</td>
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<tr>
<td>Overall</td>
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<td>Moderate</td>
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</tbody>
</table>

Results

Global Environmental Objective Indicators

- Number of trips in public transportation in intervened corridors compared to corridor baseline (Number, Custom)

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline: 959705.00</th>
<th>Actual (Previous): 1104127.00</th>
<th>Actual (Current): 967081.00</th>
<th>End Target: 1007690.00</th>
</tr>
</thead>
</table>

Comments

Increase in public transport ridership in intervened corridors. Target: 5 percent. Actual 1.55 percent

This indicator has been reviewed conservatively with the latest information provided by the cities.

Baseline: 952, 955 (Leon: 603,705 + Monterrey: 349,250)
Target: 1007690.00
Current status: 967, 081 (Leon: 617,705 + Monterrey: 350,081)

Leon
Leon authorities reported an Optibus baseline equal to 603,705 trips in an average day and in 2015 they have 617,705 trips (considering phase 1 and 2 of optibus) which means a 2.3% increase in public transport trips. There is no data or studies to justify these data, which has been estimated by the city using paid trips as a proxy.

Monterrey:
ECOVÍA baseline is 349,250 trips in an average day an in 2010 (Ecovia 1 CBA study). The city reported current demand as 350,081 trips, which means a 0.24 percent increase in public transportation trips.

This low increase rate in public transportation is mainly due to the fact that ECOVÍA does not work yet as a network, it is only one corridor. This is also reflected in lower modal shift than expected.
The grant also financed detailed studies for two more corridors, which convert ECOVIA in a BRT network system. If we would consider the forecasted demand data from the studies we can appreciate that the network effect will produce an important impact on the number of users of public transportation.

Juarez:
Studies for BRT Corredor Tecnologico are not completed yet. First part is already available and the second one is ready but pending payment for delivery.

<table>
<thead>
<tr>
<th>Number of NMT trips increase in intervened areas compared to corridor baseline (Number, Custom)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
</tr>
<tr>
<td>Value</td>
</tr>
</tbody>
</table>

Comments

Number of NMT trips increase in intervened areas compared to corridor baseline. Target: 2 percent. Current status: n/a. Potential impact after implementation: 11.5 percent.
Baseline and indicators has been updated with latest information in studies and provided by cities.

Baseline: 4,648,295  (Juarez: 1,084,200 + Puebla: 3,561,000 + Leon: 0 + Monterrey: 3095)
Target: 4,741,260.9
Current status: n/a

Estimated Potential impact if studies are implemented: (Juarez: 1,113,300 (+2.7%) + Puebla: 4,060,000 (+14%) + Leon: 4213 + Monterrey: 4251 (+46.1%))

All the cities finalized their NMT plans (bikes and pedestrian). None of them have implemented any of the plans, which were completed in late 2014. However, the plans are informing investment plans and other studies.

Data is not homogeneous which makes difficult the establishment of a unique baseline and value for current status of indicators. That’s why we are disaggregating the values by city. Juarez and Puebla considers the whole city. Leon a bike share system that currently does not exists, and Monterrey bike users in specific corridors.

Besides studies usually consider different scenarios or coverage rates for the projects. We are reporting the less coverage rate of minimum cost scenario that accomplish the end target indicator.

Juarez: Cyclist Mobility Plan. The project considered 3 different scenarios and 3 different timeframes. With the 2 phase of scenario implementation we comply with the indicators. Although the focus of the plan is bike mobility it also considers changes in pedestrian mobility for the whole city. Studies estimates a 2.7 percent increase in bike trips.

Puebla: The study is a comprehensive NMT plan for the whole city which considers walking and biking. The values reported as current, are in fact the expected values for 2020. Studies estimate a 14 percent increase in NMT trips.

Monterrey: Biciplan considers 3 different scenarios. We are only reporting the Scenario1 bike trips, which complies with the end target values. Demand data is provided for peak-hour. Monterrey has also developed a universal accessibility plan for pedestrians but it does not provide information about modal change. Studies estimate a 46.1 percent increase in bike trips in the city.

Leon: Bikesharing system. From the information provided by the Leon study we should understand that the baseline is 0, therefore all the different scenarios (based on different fees for the bikeshare system) comply with the end target indicator. The studies consider different demand scenarios, depending on the fare for bike trip. We are presenting the values for the most restrictive scenario, which considers a MX$10.00 fare. Studies estimate induced daily demand of 4,213 bike trips.
### Decrease of CO2-equivalent tons emitted by ground transport in intervened corridors (Metric ton, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
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<th>Actual (Current)</th>
<th>End Target</th>
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<tr>
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</table>

**Comments**

**Annual emissions reductions annually in 2 corridors. Target:** Reduction of 58,000 CO2e tons. **Current status:** Reduction of 62,865 CO2e tons.

Baselines and indicators have been adjusted due to a conservative calibration of the model using latest data on parameters reported by the cities. Specifically, modal shift has been lowered from 7 percent to 2 percent in Leon and to 3.8 percent in Monterrey. Similarly, conservative modification in baselines for public transport has been updated in the model also with latest data reported by the cities.

- **Baseline:** 179,825 (Leon: 90,315 + Monterrey: 89,510)
- **Target:** 121,825 (58,000 CO2e annual tons reduction)
- **Current Status:** 116,961 (Leon: 67,349 + Monterrey: 49,612) (62,865 CO2e annual tons reduction)

**Leon:**
- Baseline: 90,315 CO2e annual tons
- Current Status: 67,349 CO2e annual tons

A reduction of 22,966 has been achieved through the project (25.4% decrease) considering a 2% modal change through the project (we have no surveys neither studies to support this figure, however the city has a survey that states that at least 10% of the BTR users own a car and nevertheless they prefer to use the BRT service besides the BRT is a network system with several corridors operating efficiently which usually implies a modal change. Therefore we can consider a moderate change in the modal split due to the project)

**Monterrey:**
- Monterrey’s emission baseline is 89,510 tonCO2 and currently the BRT related emissions are 49,612 ton. A reduction of 39,899 ton (44.6%) has been achieved through the project. In this case we considered a 3.7 % of modal share reported by the studies for the second and third corridor (1.6% change from cars and a 2.1% from taxi) Regarding the low demand increase comments are included when reporting the number of trips in public transportation.

The grant has financed feasibility studies for two new BRT corridors in Monterrey (Constitucion Morones Prieto, Ecovia 2 and 3). The project implementation has not started, but they will have an additional positive impact on this indicator.

**Juarez:**
- Feasibility studies for corredor tecnologico are under implementation and will be completed after the grant closing. First part is already available and the second one is ready but pending payment for delivery.

### Number of cities that are integrating environment and climate change components, with urban transport, and land use in to master plans and studies developed, including regulatory and financial framework (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>3.00</td>
<td>4.00</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Comments**

**Original target:** 2 New land use regulations in place in Ciudad Juarez and Puebla

**Current Status:** 4. Monterrey, Leon and Puebla have PIMUS or master plans that have climate, land-use and transport considerations. Juarez regulations also includes environmental and climate considerations.
Overall Comments

Intermediate Results Indicators

▶ Design of routes plans and regulatory framework for freight transport (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
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<td>1.00</td>
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</table>

Comments

Original target: 1 Ciudad Juarez has route plan for freight transport under implementation
Current status: 1 Juarez study for freight management has been finished

▶ Development and preparation of policies, regulations and plans to integrate land-use and sustainable transport development (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
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<th>End Target</th>
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<td>0.00</td>
<td>3.00</td>
<td>4.00</td>
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</table>

Comments

Original target: 2 New land use regulations in place in Ciudad Juarez and Puebla.
Current status: 4 Monterrey, Puebla, and Leon have updated PIMUS or master mobility plans that have per TORs these. Juarez regulation includes these considerations
Feasibility studies for BRT completed, with consideration for intermodal connectivity. (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
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<th>Actual (Current)</th>
<th>End Target</th>
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</thead>
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<td>3.00</td>
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</table>

Comments

**Original target:** 2 Optibus Phase II and Monterrey Ecovia BRT corridors are under operation.

**Current status:** 3 Monterrey Ecovia I and Optibus Phase II are in operation. Monterrey: Ecovia II y III - The study is finished and it takes into account both intermodal connectivity (with other bus lanes and bikelines) and transport oriented development Juarez: Studies are not completed yet. First part is already available and the second one is ready but pending payment for delivery.

Number of cyclists in intervened corridors/areas (Number, Custom)

<table>
<thead>
<tr>
<th></th>
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<td>99280.00</td>
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</table>

Comments

**Baseline:** 90254 (Juarez: 19,500 + Puebla: 67,659 + Leon: 0 + Monterrey: 3095)

**Target:** 99280 (10 percent increase)

**Current status:** n/a

**Estimated Potential impact if studies are implemented:** 172284 (Juarez: 21,450 (+10%) + Puebla: 1,421,000 (+110%) + Leon: 4213 + Monterrey: 4251 (+46.1%)) (90 percent increase)

All the cities finalized their NMT plans (bikes and pedestrian). None of them have implemented any of the plans. Data is not homogeneous which makes difficult the establishment of an unique baseline and value for current status of indicators. That’s why we are disaggregating the values by city.

Besides studies usually consider different scenarios or coverage rates for the projects. We are reporting the less coverage rate of minimum cost scenario that accomplish the end target indicator.

**Juarez:** Cyclist Mobility Plan. The project considered 3 different scenarios and 3 different timeframes. With the 1st phase of scenario implementation we comply with the indicators. Although the focus of the plan is bike mobility it also considers changes in pedestrian mobility for the whole city. Studies estimate an increase of 10 percent in bike trips.

**Puebla:** The study is a comprehensive NMT plan for the whole city which considers walking and biking. The values reported as current for bike trips, are in fact the expected values for 2020. Expected results are an increase of 110 percent of bike trips by this date.

**Monterrey:** Biciplan considers 3 different scenarios. We are only reporting the Scenario1 bike trips, which complies with the end target values. Demand data is provided for peak-hour. Expected increased bike trips are 46.1 percent.

**Leon:** Bikesharing system. From the study we should understand that the baseline is 0, therefore all the different scenarios (based on different fees for the bikeshare system) comply with the end target indicator. We are presenting the values for the most restrictive scenario, which considers a MX$10.00 fare. Studies estimate induced daily demand of 4213 bike trips.
Number of programs to promote the use of facilities for pedestrians and cyclists (Number, Custom)

<table>
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<tr>
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<td>15-Jan-2015</td>
<td>30-Jan-2015</td>
<td>30-Nov-2015</td>
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Comments

- Original target: 2
- Current status: 4

All the cities have finalized their NMT plans and all of them include an advertisement campaign for promoting bikes and pedestrian trips.

Completion of NMT plans in all four cities. (Number, Custom)

<table>
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<td>30-Jan-2015</td>
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Comments

- Original target: 2
- Current status: 4

All the cities have finalized their NMT plans.

Overall Comments

Data on Financial Performance

Disbursements (by loan)

<table>
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<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Currency</th>
<th>Original</th>
<th>Revised</th>
<th>Cancelled</th>
<th>Disbursed</th>
<th>Undisbursed</th>
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<tr>
<td>P114012</td>
<td>TF-95695</td>
<td>--</td>
<td>USD</td>
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Key Dates (by loan)

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<th>Project</th>
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<th>Status</th>
<th>Approval Date</th>
<th>Signing Date</th>
<th>Effectiveness Date</th>
<th>Orig. Closing Date</th>
<th>Rev. Closing Date</th>
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Cumulative Disbursements
Restructuring History

Level Approved on 01-Nov-2010, Level Approved on 15-May-2013, Level 2 Approved on 11-Dec-2013, Level 2 Approved on 16-Dec-2014

Related Project(s)

There are no related projects.