Growth of Addis Ababa

- Founded in 1887, and has expanded rapidly
- Now among the ten largest cities in Sub-Saharan Africa
- Annual growth rate is 3.8%
- By 2020 population growth would reach to eight million.
Existing Addis Ababa City transport service

The Public transport system of Addis Ababa comprises

- 550 Anbessa bus service with 100 seat capacity.
- 9,200 privately owned mini Bus Taxis with 11 seat capacity.
462 midi Bus (Higer) with 27 seat capacity

4000 Saloon Taxi with 5 seat capacity

Non – motorized transport (walking) 60%
Problems of Addis Ababa City Transport
Increasing traffic congestion

Declining attractiveness of road based public transport.

Increasing high costs of travel and journey times.

High levels of road accidents

Due to increased road vehicles high exhaust emissions
The existing public transport system in Addis Ababa is critically inadequate to provide service for the existing travel demand.

Although mini bus taxis are providing service.

Their number is not sufficient.

More of the same would mean increasing traffic congestion, pollution and accidents in the city.
Increasing demand of parking

Low affordability

Inadequate capacity

To plan for efficient transport system

To manage travel demand

To integrate land use plan and transport plan

To provide adequate resources for the city transport.
Addis Ababa Transport's Issues

- Growth of population and physical extent
- Population growth and horizontal expansion of the city demand for travel (increase journey length and time)
- This also demand for efficient mobility planning
Growth in city economy and household and personal incomes is leading to increased travel demand.

For those in the lower income circle, mass transit schemes are becoming more urgent necessities.
Addis Ababa Transport Strategy

Although transport problems are becoming critical in Addis Ababa the situation is not without remedy.

Improved traffic and transport system developments are essential for the city of Addis Ababa.
We need therefore to have a clearly defined urban transport policy to tackle the mobility issues of the city.

Because of this reason the Addis Ababa transport policy has been developed.

Improve operational efficiency and quality to make most productive use of existing roads.
To manage demand of road traffic new road construction alone is not a solution; it is required to be accompanied by mass transport.

By improving the safety and security of the road-based transport system, reduce accidents.
Integrate transport plan and the city’s land use plan.

Implement traffic Management activities

Reallocation of road space from cars to Mass transit

Improve pedestrian facilities
Major Progresses

- The strategic response is to upgrade the city’s Transit system.
- Both LRT and BRT are planned for the city of Addis Ababa.
- The project of LRT has been commenced.
- But these are required to complement.
- Pilot project of selected corridor (BRT) with the help of AFD is under construction.
To reach to full implementation construction of signals, stations, classification of lanes, (1+1 and passing lane at station, etc...) signs is necessary and to meet the above activities.

The RFP has been prepared, reviewed by AFD, non-objection obtained on January 2, 2012 and the tender has been floated on January 6, 2012.
Technical committee established to evaluate the bid documents that have been collected on February 27, 2012.

The technical evaluation is completed and the report is submitted to AFD non-objection.

500,000 Euros grant has been signed by MOFED and AFD on April 30, 2012.

The BRT pilot corridor detail design is completed (the hard part).
The other progress is the establishment of Transport projects coordination office (unit).

The transport project unit will give priority to the GEF sustran project.

The office will have its own manager.

The power and function of the manager is to coordinate and superiorly administer the office.
The office is accountable to the management board.
The chair person of the management board is the Mayor of Addis Ababa city.
The Road Transport Bureau has incorporated Transport planning and Traffic Management departments in its organizational structure.
These departments have started implementing their core activities (but the stuff should be supported by sustainable training)
The other progress is Technical Advisory Services for Addis Ababa City Traffic Management

Financed by the world bank
Outputs

- Traffic Management Guidelines
- Traffic Management Schemes and Plans
- Public Transport Development Strategy
- Institutional Restructuring
- Training Program
Traffic Management Schemes & Plans

Conducted Traffic Surveys on EW corridor and in Merkato & Piazza Areas

- Mid block classified Traffic Volume Count
- Occupancy Survey
- Pedestrian Count Survey
Parking Survey
Speed & Delay Survey
User Interview Survey
Traffic Management Concept

Plans for Merkato

Concept 1: Maximize accessibility to vehicles by facilitating unrestricted access to internal areas by private modes
Concept 2: Maximize accessibility to persons by prioritizing internal access for public transport.

Concept accepted and plan prepared.
Traffic Management Concept
Plans for E-W Corridor

Concept 1: Improve the existing circulation by banning left turning movement at critical junctions.

Concept 2: Improve accessibility by public transport by providing high speed Anbessa Bus Service.
Concept 3 : Improve the speed to public transport by providing dedicated lanes for public transport

Concept 4 : Improve the speed to all vehicles by providing one-way movement
Concept 5: Improve speed of all vehicles and improve accessibility by public transport by providing one way movement for private vehicles + high speed Anbessa Bus Service on exclusive lanes in contra flow direction.
Concept 6: Provide access control corridor by providing limited access
Integration with Long Term Development Plan for E-W Corridor

- City Administration has decided to Develop E-W corridor as a Mass Transit (LRT) Corridor in the long term.
- TM Concepts that will help in integrating with the long term plan to develop E-W corridor as a Mass Transit Corridor.
Traffic Management Concept
Plans for Kality-Akaki Corridor

Concept 1: Reduce traffic by diverting intercity traffic to alternative roads which bypass this area
Concept 2: Restrain traffic by prohibiting heavy freight vehicular traffic on this road during the peak traffic periods of the day.

Concept 3: Augment Capacity of Road by adding additional lanes to the existing carriageway.
Traffic Management Strategy

Long Term Solution

Complete the 14 kms of western bypass from Tulu Dimtu to Mekanissa Round About
Immediate Action Plan

- Improving 1.7 km. Parallel road between Kadisco and Addis Ababa prison including junctions
- Providing busbays between Kaliti RA and Akaki
- Estimated cost: 30 METB
Traffic Management Schemes under Implementation

- Mexico Round About
- Kazanchis Area
Addis Ababa will have a multimodal public transport system (taxi, mini bus, Higer bus, Anbessa, BRT, LRT) in the near future.

Need to develop and integrate the multimodal PT systems for providing economical and sustainable services for the users.
Need to progressively increase the share of public transport share in Addis Ababa as a long term transport management strategy.

Need to develop plans, programs, stakeholder consultations, institutional, legal and financial strengthening measures to achieve these.
Need to initiate a project to prepare the PT development plans and programs for the next 10 years – Scope of work for such a project has been identified.
Establishing the Traffic Management Unit and Traffic Management Centre under AACTA

Responsibilities:

Collect and analyse data on mobility restraining factors (traffic flows, delays, accidents, pollution, causes etc)
Identify traffic management measures and select the short, medium and long term action plans for implementation.

Engineering measures could be assigned to AATIA for design and implementation.

Non-engineering measures (Regulation, Control, Pricing, etc) could be implemented by AACTA.
Traffic enforcement could be taken up by AA Traffic Police and Monitoring and evaluate the performance of traffic management schemes could be taken up by TMU
Future transport system of Addis Ababa

- The increasing pressure on the road and transport system has led to a general agreement

- That a high – performance mass transit system will be needed to cope with population and vehicular growth.
Mass rapid transit has been defined as public transport services which to a substantial degree combine individual trips shared, high – performance trunk corridors. It comprises those modes that are based on guideways (usually rail) or on the usage of exclusive roadways.
It includes the busways of Bus rapid Transit (BRT),

But it excludes bus lanes and other forms of priority for buses in mixed traffic.

Similarly, it includes Light Rail Transit (LRT) on physically segregated tracks, but not trams that would operate in mixed traffic.
The core requirement of mass transit in developing cities and certainly also in Addis Ababa is that it carries large numbers of passengers, rapidly.

In the absence of large subsidies this requires both low cost (hence low fares) and speed in operation.
So that in two main corridors (East – West from Ayat to Torhilo and North South from minillik square to Autobus tera, Merkato, Ledata, through saint Joseph school to Kaliti interchange)

- East west is 17.2 Km
- North South 19.6 km
Bus Rapid Transit was defined as distinct from conventional bus services.

It represents an evolution of relatively high – flow bus systems which were initially pioneered in Brazil,
### Comparison of BRT, LRT and Trolley bus

<table>
<thead>
<tr>
<th></th>
<th>1+1 BRT</th>
<th>1+1 BRT &amp; passing lane at station</th>
<th>Trolley Bus (1+1)</th>
<th>LRT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment cost per km</strong></td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td><strong>Peak capacity (thousands of Passengers per hour per direction)</strong></td>
<td>10-12</td>
<td>18-25</td>
<td>10 -12</td>
<td>18-20</td>
</tr>
<tr>
<td><strong>Commercial Speed in km/h, including stops at stations and Signals</strong></td>
<td>17-21</td>
<td>19-25</td>
<td>16-20</td>
<td>15-20</td>
</tr>
<tr>
<td><strong>Utilization of existing Street space</strong></td>
<td>some</td>
<td>most</td>
<td>Some</td>
<td>Slightly better than 1+1 BRTs worst</td>
</tr>
<tr>
<td><strong>Operational flexibility</strong></td>
<td>Second</td>
<td>Best</td>
<td>Third</td>
<td>Worst</td>
</tr>
<tr>
<td><strong>Local air pollution</strong></td>
<td>Worst</td>
<td>Worst</td>
<td>Best</td>
<td>Best</td>
</tr>
<tr>
<td><strong>Service frequency and reliability</strong></td>
<td>Second</td>
<td>Best</td>
<td>Third</td>
<td>Worst</td>
</tr>
<tr>
<td></td>
<td>BRT</td>
<td>LRT</td>
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<tr>
<td><strong>Demand Requirements</strong></td>
<td>Low to high passenger demand (3,000 to 45,000 passengers per hour per direction)</td>
<td>Moderate passenger demand (5,000 -12,000 passengers per hour per direction)</td>
<td></td>
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<tr>
<td><strong>Advantages</strong></td>
<td>Relatively low infrastructure costs</td>
<td>Provides good image for city</td>
<td></td>
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<td></td>
<td>Often does not require operational subsidies</td>
<td>Attracts discretionary public transport riders</td>
<td></td>
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<tr>
<td></td>
<td>Good average commercial speeds (20-30km/h)</td>
<td>Quiet ride performance</td>
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<td></td>
<td>Ease of integration with feeder services</td>
<td>Can be fitted in narrow streets</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Moderately good image for city</td>
<td></td>
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</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>can carry with it the negative stigma of bus technology</td>
<td>Moderately high infrastructure costs</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Relatively unknown to many decision makers</td>
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</tbody>
</table>
Therefore, by developing an efficient and reliable mass transport we are going to discourage the private cars.

Because business and commuters depend on this high level of public transport reliability to make the best use of their valuable time
LRT
BRT
THANK YOU