ROM TRANSPORTATION ENGINEERING LTD.

Company Profile
June 2017

רום הנדסת תחבורה בע"מ
Transportation Engineering Ltd.

About ROM Transportation Engineering

ROM Transportation Engineering Ltd. is a leading international transportation planning and consulting firm, based in Israel and operating worldwide. Our firm specializes in consulting the public sector on all aspects of transportation at both an urban and national scale, as well as providing integrative mobility and accessibility solutions for large metropolitan areas.

In recent years, ROM has led a variety of large-scale transportation consulting projects in Africa, Asia, and Eastern Europe. Many of these projects were financed by the World Bank, EBRD, AfDB, and other large financing agencies. Our projects require professional proficiency and managerial capabilities in line with the highest international standards.

We have developed over 15 project-specific Travel Demand Models for policy and development evaluation using advanced GIS based software packages. We stand at the cutting edge of transportation surveys and complementary data collection activities by integrating new technologies such as tablet PCs and GPS trackers to create high quality databases.

Our excellence is based on the professional and managerial abilities of our staff. ROM's senior consultants have occupied some of the highest positions in the transportation sector in Israel and are personally involved in every one of our projects, from the earliest stages of inception, through implementation, up to the final presentation of our work.

Transport Planning and Modelling

Public Transport & ITS

Bus Rapid Transit (BRT)

Traffic Survey & Data Collection

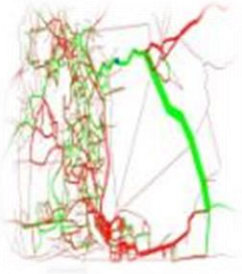
Traffic & Parking Management

Road Safety

Capacity Building

Non-Motorized Transport

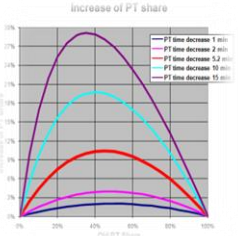
Theme 1: Transport Planning and Modelling



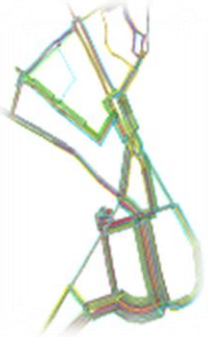
One of ROM's main fields of expertise is integrative transportation planning for metropolitan areas. We have developed and calibrated advanced Travel Demand Models (TDMs) for cities of varying sizes and characteristics, from mega-cities such as Lagos, through large cities such as Baku, Bucharest, and to medium-sized cities such as Burgas, Bulgaria and Pristine, Kosovo.

Our models use TransCAD and EMME-2/3 modeling software, and our staff is knowledgeable in a variety of advanced planning tools. All models are based on extensive surveys and state-of-the-art data collection techniques, some of which are unique to the ROM team. The models are used by policy makers, urban planners, economists, and environmentalists to develop short and long term policies, assess future transport investments, develop sustainability policies, and restructure existing networks to better suit demand and future predictions.

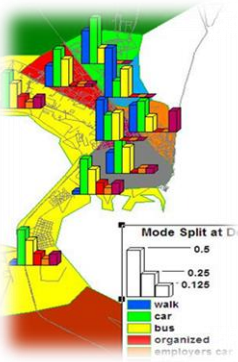
ROM is a world leader in transportation planning and developed the newest Activity-Based Tour-based Model for Jerusalem. The Jerusalem project schedule spanned four years and included intensive data collection efforts, followed by model estimation, implementation, calibration and validation.



Our model design includes several unique innovative features that have not yet been applied in the practice of regional travel models, including: explicit modeling of intra-household interactions and joint travel, enhanced temporal resolution, individual mobility-related attributes and explicit modeling of parking location choice.



ROM's modeling staff includes some of the most prominent transportation modelers in Israel. They have been involved in the design of the current TDMs for Tel Aviv and Jerusalem, as well as in modeling work in Kampala and Varna.



15 Travel Demand Models were developed in the past 5 years

Location	Metro Population	Year	Type	Special surveys
Bucharest	2.4 million	2015	Disaggregated 4-Step based with Policy Analysis Demand Model	THS, SP, On-board, Passenger counts, cordon counts, traffic counts
Kyzylorda	200,000	2015	Transit model	On-board surveys, passenger counts
Zambia	14 million	2013	National auto TDM	Traffic counts and preexisting
Zanzibar	1.3 million	2013	4-Step based with Policy Analysis Demand Model	THS
Almaty	1.6 million	2013	Disaggregated 4-Step based with Policy Analysis Demand Model	THS, SP
Tel Aviv	3 million	2011	Activity-based Model	Nested mode choice, P&R sub-model
Jerusalem	1 million	2009-Ongoing	Activity-based Model	100% GPS HH survey
Kampala	2.2 million	2011-Ongoing	4-Step multi-modal Including NMT	5% GPS, THS, SP
Varna	350,000	2011	4-Step multi-modal	
Burgas	250,000	2009	4-Step multi-modal	On-board survey, passenger counts, THS
Lagos	17 million	2008-09	4-Step multi-modal including rail & water-jet	Route network of > 1,000 bus routes was surveyed
Haifa	500,000	2010	Cable car extension features	Stated preference
Khujand	300,000	2010	Public Transport TDM	On-Board survey. Transit passenger count survey among others
Baku	2 million	2008-09	Public Transport TDM	
Almaty	1.34 million	2010-Ongoing	Public Transport	Bus route with 100% GPS
Pristine	200,000	2008	Demo Auto model only	Bus route with 100% GPS
Maseru	230,000	2009-10	4-Step multi-modal Including NMT	NMT & parking surveys

Theme 2: Public Transport & Intelligent Transport Systems

ROM believes in promoting sustainable and integrated transportation systems. The cornerstones of our approach are:

High-Quality Service: Designing transit systems that people find more reliable, convenient, and cheaper than driving private cars.

Integration: Terminals and physical integration between all transit systems in a city (metro, LRT, BRT, bus, taxi), uniform ticketing, interface with non-transit modes such as cycling and cars.

Non-Motorized and Sustainable Transport: Favoring environmentally-friendly solutions and promoting a livable environment.

Social Equality: Promoting transit schemes that increase mobility options for the less fortunate and leverage an area's economic and social opportunities.

Financial Sustainability: Transit systems that are attractive, while targeting financial sustainability.

Our work has included the following:

- Setting public transport policies and strategies for cities
- Building transport modeling tools and using them to efficiently restructure bus networks
- Integration of bus networks with metro network
- Corridor proposals for concept BRT and LRT
- Review and reform of taxi systems
- Proposal of institutional and regulatory reforms
- Recommendation of new functional and organizational charts for transport departments
- Design of integrated ticketing systems
- Development of normative standards for operational design and suggestion of legal amendments for their support
- Review of current concession contracts for transit operators and preparation of new tenders
- Real time ITS systems for real time passenger information distributed on board, at stations and via mobile apps
- Development of contract monitoring schemes for privatized public transportation
- Utilization of GPS and Fleet Tracking technologies for real time monitoring and data collection

Theme 3: Bus Rapid Transit (BRT)

ROM promotes the concept of bus rapid transit (BRT) as a solution for high-capacity transport demand in urban environments. With lower infrastructure costs compared to other public transport systems such as metro or light rail, BRT is an attractive solution for cities with quickly increasing transport needs. ROM provides a variety of expertise for the strategic planning of BRT systems, including:

Engineering Feasibility Studies – The establishment and analysis of corridors that could accommodate BRT lines. This includes determining carrying capacity along city streets and passenger demand levels.

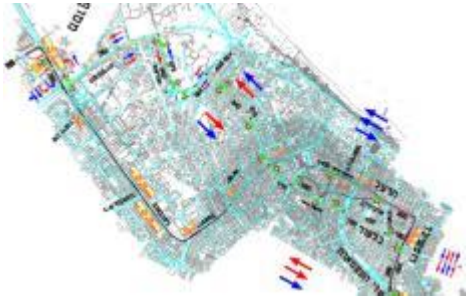
Detailed Design – Includes street dimensions and the physical layout and design of stations for BRT service. This should include the size and length of platform areas to accommodate BRT buses while accommodating waiting passengers with adequate lighting and information about available transit services in the station area or the overall PT network.

Network Re-Organization – Introducing BRT service requires that existing bus service either gets replaced or re-oriented to provide feeder service to the new BRT system.

Modal Integration with Other Transit Services – Ensures that there is adequate integration between BRT stations and other transit systems in the city (metro, LRT, bus, taxi)

Optimization – a key to BRT service is the quick boarding and alighting times at stations with stations being optimally placed to reduce the overall number of stops. Our route selection involves finding the best routes to transport passengers through a city. Additionally, the buses must be scheduled to provide optimal service frequency while the right bus size must accommodate as many passengers as required. This all adds up to an optimal BRT system. We take these and other factors into consideration in order to provide the best BRT system for the cities for which it is commissioned.

Experience – ROM has been involved in BRT studies for Kampala, Lagos, Baku, Varna, Burgas Tel Aviv, Haifa and Jerusalem. Our work has included conducting feasibility studies, network reorganization, demand estimation, optimization, new mass transit network layout, modal integration, and operational and financial analyses.



Theme 4: Transport Surveys and Data Collection

ROM has vast experience in collecting transportation-related data and conducting a variety of relevant surveys. We handle the entire process, from planning to analysis, including management and surveillance of field work. In many projects, we have proven our capability to organize complex counts and surveys under tight timetables and budget restraints. We excel at working with logistical challenges and use state-of-the-art software to analyze the collected data quickly and efficiently.

Classified Traffic Counts along road segments and at intersections. Our count data is used for modeling and planning, and traffic light and intersection design.

Travel-Time Measurements of buses and private cars, using a GPS-based software. We utilize the quickest, cheapest and most accurate ways to perform travel-time measurements.

Congestion and Travel-Time Measurements using an innovative and unique method, which is based on data received from mobile phone operators. We have used this method to analyze traffic in the Tel Aviv Metropolitan Area at different times of day.

Travel Habit Surveys (THS) Recently we have conducted a household THS in Maseru, Lesotho, which included 1,000 households – ~1% of the total population, selected randomly according to geographic location. ROM just completed a survey of 2,700 households in Bucharest, as well.

On-Board Surveys are surveys in which passengers are handed questionnaires regarding their origin and destination (OD), purpose of travel, stated preferences, etc.

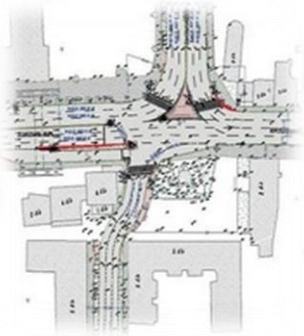
On-Board Passenger Counts in buses, including number of passengers boarding and alighting at each stop.

Focus Groups to analyze public perceptions, complaints and expectations regarding different transportation issues.

Parking Surveys include stated-preference surveys to gather a driver's biography and motivations for parking, occupancy surveys that measure the number of spots occupied and turnover surveys that measure the amount of time cars are parked. Video surveillance is also employed to monitor parking lots in order to acquire data on average parking duration and other behavioral trends.

Non-Motorized Travel (NMT) Surveys survey pedestrians and bicycle riders on the itinerary of their trips from origin to final destination. NMT surveys also gather information on stated preferences and motivations for walking and cycling use and frequency. For studies aimed at increasing NMT travel, surveys also ask NMT travelers about those aspects that encourage them to increase their trips by NMT.

Theme 5: Traffic Management and Parking



ROM's projects involve all aspects of traffic management. We excel at analysis of existing traffic management (TM) capacities, identification of weak spots, development of new TM strategies together with stakeholders, and preparation of short, medium and long-term plans for investments according to necessity, feasibility, economic considerations and available budgets.

ROM provides a variety of expertise for strategic and efficient traffic management and parking, including:

Public Transit Network design and restructuring of bus networks, BRT and LTR corridors, and integration of existing transit systems.

Public Transport Improvement – raising level of service, introducing advanced and integrative ticketing schemes, designing stops and terminals.

Road Safety – identifying current capacities and problems, creating modern accident databases, introducing enforcement measures, capacity building for the traffic police, and conducting local and national road safety campaigns.

Intelligent Transport Systems (ITS) and Control Centres – our staff has been involved in designing the Jerusalem Traffic Control Centre and the Haiphong Bus Management and Operation Centre, and have prepared detailed tender documents for TCCs in Tbilisi, Almaty and other cities; ITS design was a major part of several ROM projects such as the Kazakhstan "Silk Road" corridor.

Parking Schemes – we have developed integrative on-street and off-street parking schemes for cities such as Istanbul, Moscow, Lagos, Tbilisi and more.

Infrastructure Design – traffic light (simple phases, synchronized phases, sensors), geometrical design of problematic intersections and road segments.

Micro-Modelling – we use innovative software such as TransModeler to analyze traffic in a specific area and appraise different design options.

Tolling and Pricing Schemes – Several of our projects, such as the Kazakhstan "Silk Road" and Tel Aviv Congestion Management, included the examination of different pricing schemes using state-of-the-art ITS technologies

Theme 6: Road Safety

In all our projects we always give the highest priority to road safety issues, and work with prominent road-safety experts and researchers. Our experience in this fields includes:

Road safety campaigns – ROM was selected by the World Bank to lead a large project for road safety surveys and campaigns in Poland, with emphasis on seat-belt use. The project included conducting surveys and focus groups, developing a road safety strategy, and enhancing public awareness. It was considered highly successful, and WB reports estimate that many lives were saved thanks to the implementation of this project.

Accident investigation and databases – in Tbilisi, Lagos and other places, we have analyzed existing procedures of accident investigation by the traffic police and the storage and use of accident data. According to our findings we have developed modern, uniform accident investigation forms, and assisted the traffic police in creating a computerized accident database in line with international best practice, to provide decision makers with a clear picture of the traffic safety situation in any given location and time.

Traffic improvements – Road accidents are often the result of traffic mismanagement, congestion, lack of traffic lights, and bad infrastructure. We identify both general and local weak spots and propose ways to handle them: traffic light design, geometrical improvements, changes in traffic arrangements, etc.

Design guidelines – together with another Israeli firm, we have developed new geometric design guidelines for all rural roads in Georgia (a WB-financed project). One of the major requirements from the new guidelines was compatibility with the highest international standards regarding road safety.

Enforcement of traffic regulations – no road safety policy is complete without effective enforcement measures. We are working with prominent Israeli experts, including the previous chief of the Israeli Traffic Police Force, to consult governments and municipalities on how to improve their traffic policing methods and train local staff in the use of electronic enforcement equipment. We also analyze the exiting legal and regulatory framework and suggest necessary improvements.

Theme 7: Capacity Building

In order to effectively manage their responsibilities for transport services, cities and regions need to build up their capacities in planning and organizing, usually in the form of a Public Authority for transit service. This requires capacity building in areas such as training staff, managing transit operations and concessions.

ROM's outline for the functions of a Public Transit Authority include:

1. Transportation planning to meet the transport needs of the city's population
2. Management of fleet, infrastructure, and systems (bus, BRT, Metro, urban rail, electronic ticketing, real-time information)
3. Management of transport concessions with public and private operators
4. Revenue collection and allocation of subsidies
5. Financial arrangements: the remuneration of operators can be based on vehicle kilometers, passengers, costs, revenues, or a combination.
6. Transport authority: the structure and institutional framework for setting up a PTA depends to a great extent of national legislation regarding the organization and responsibilities of local authorities.
7. Coordination with other authorities regarding urban planning and traffic

ROM could define for the client a set of functions and responsibilities and prepare an Institutional Action Plan that specifies the legal and institutional measures to be taken to facilitate an organization's capacities, taking into account the transport needs for a city or region.

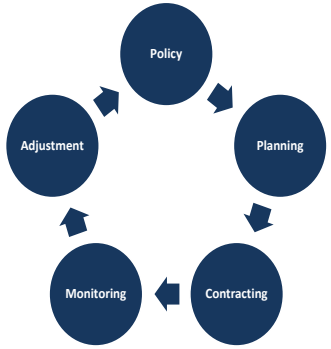
ROM could also elaborate on specific organizational staffing and training methods, and even prepare a program for further training.
More specifically, ROM will review the existing legal framework for:

- public procurement
- transport concessions
- transport subsidies
- creation of a transport authority

The main task is to develop a tailor-made solution for a city or region, based on the transport needs of its people, the transport modes in use and the legal and institutional arrangements in the respective city or region.

ROM has experience with:
•Developing the PTA of Jerusalem
•Institutional, legal, and financial arrangements for transport concessions.
•Tendering transport concessions and developing concession contracts in several countries.

Management of transport concessions



Theme 8: Non-Motorized Transport (NMT)

NMT/Sustainable Transport is a mode of transport that favors environmentally-friendly solutions and promotes a livable environment.

Cycling is often referred to as a form of Non-Motorized Transport (NMT). NMT users (i.e. cyclists and pedestrians) are the most slow and vulnerable road users, and measures for both pedestrians and cyclists are therefore relatively easily combined.

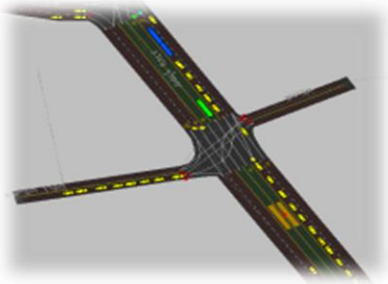
Although NMT is the most basic part of the transportation system, the benefits are getting more recognition worldwide. Travelling by bicycle or foot does not produce any CO^2 emissions, is healthy and is generally spoken a very relaxing travel mode. NMT is of high importance for the accessibility of activities in cities, where walking and cycling are often the fastest and most efficient way to perform short trips, if the right conditions are met. Pedestrian and bicycle networks should access all local destinations like schools, work and public transport stations. Access to the opportunities in the city via basic low cost mobility are benefits which are especially relevant to marginalized communities. 'De-carbonization' of urban mobility is rapidly becoming a priority on the global agenda.

NMT together with public transport has a significant role to play in providing a sustainable alternatives to the private motor vehicle, in reducing overall carbon emissions, improving air quality, reducing congestion.

ROM provides consulting services for NMT facilities and infrastructure and offers a high level of expertise for NMT strategic planning. ROM also has experience with public outreach campaigns in NMT with proven effectiveness for encouraging higher NMT use.

NMT also compliments transit use, especially for reaching end destinations that are remote from transit stations. ROM's experience has utilized NMT as part of its schemes for station area design and multi-modal strategies. Specifically, ROM has emphasized the implementation of bicycle parking at transit stations and bicycle paths in its strategic transport planning process and detailed design plans for improving overall connectivity and accessibility. With its world-wide experience, ROM has the know-how for combining public transit with NMT to develop an effective multi-modal transport system customized for cities of various population, size and topography.

Theme 9: Additional Capacities



Micro Modeling

In addition to developing transportation models for large metropolitan areas, ROM also specializes in innovative techniques of micro-modeling, to analyze the traffic behavior in a limited area and produce traffic forecasts according to different design alternatives.

We use micro-modeling to answer questions such as: how would traffic in the neighborhood behave if the direction of traffic in a certain street is changed? If a marketplace is moved several meters aside? If we add a bus lane to the road? If we change parking arrangements?

TransModeler can simulate all kinds of road networks, from freeways to downtown areas, and can analyze wide area multimodal networks in great detail and with high fidelity.

The final analysis provides decision makers with traffic data such as average speed and vehicle stop/delay times, and enables them to reach a rational decision between several design options.

Infrastructure Design

ROM complements its transportation planning capacities with knowledge and experience in traffic engineering. Having identified critical spots in the urban transportation network, we design detailed geometric modifications and traffic light schemes to improve traffic flow and enhance road safety.

Our traffic engineers and traffic signal designers have also introduced improvements in intersections and road segments as part of our Pristine (Kosovo) Traffic Assistance Project, and have examined problematic intersections in Maseru (Lesotho) that were responsible for much of the congestion in certain areas of the city.

In Israel, ROM was selected by the Ministry of Transport to provide second opinion on all urban road projects proposed by local municipalities to be financed by the ministry. In this assignment we provided:

- Review of traffic forecasts;
- Second opinion on each project scope (number of lanes, design standards, and capacity);
- Revised cost and schedule estimates;
- Control of actual implementation.

Summary of Recent Projects Worldwide

ROM's International Experience – Summary				
Country	**Location**	**Project**	**Year**	**Client**
Asia				
Tajikistan	Dushanbe	Dushanbe Trolleybus Corporate Development Program	**2015-Ongoing**	DTCDP (EBRD)
Vietnam	Haiphong	Haiphong Urban Development Project – Technical Assistance with Establishing a Public Transportation Authority	**2014-Ongoing**	Government of Vietnam
Tajikistan	Kyzylorda	Kyzylorda CNG Bus Project – Regulatory Framework Improvement Support	**2014-Ongoing**	EBRD
Kazakhstan	Almaty	Light Rail Pre-Feasibility Study	2013-14	Municipality
Kazakhstan	Almaty	BRT Feasibility Study	2013-14	Municipality
Kazakhstan	Almaty	City of Almaty Sustainable Transportation Plan	2012-13	UNDP
Kazakhstan	Almaty	Almaty Bus Reform Phase 2 – Procurement of New CNG Buses	2012-13	EBRD
Tajikistan	Khujand	Public Transport Re-Organization	2010	EBRD
Kazakhstan	National	Transportation Studies for the "Silk Road" Corridor between China and Europe	2007	MoT
Eastern Europe and the Caucasus				
Ukraine	Vinnytsia	Automated Fare Collection	**2016-Ongoing**	Vinnytsia Card Services (EBRD)
Romania	Arad	Urban Rehabilitation and Parking Management	2016	EBRD
Romania	Bucharest-Ilfov	Sustainable Urban Mobility Plans for Growth Poles in Romania	2014-15	EBRD
Romania	Botosani	Botosani Sustainable Transport Strategy	2014	Botosani Muni.
Moldova	Chisinau	e-Ticketing System Design	**2013-Ongoing**	City of Chisinau (EBRD)
Bulgaria	Varna	Integrated Urban Transport Project	2011-12	Varna Municipality (EIB)
Bulgaria	Sofia	Public Transport Study	2010-11	Sofia Municipality (EIB)
Slovakia	Bratislava	Bratislava Urban Parking Study	2011	UNDP/GEF
Bulgaria	Burgas	Integrated Urban Transport Project	2009	Burgas Municipality (EIB)
Azerbaijan	Baku	Revision of Passenger Transport Strategy	2008	MoT (World Bank)
Kosovo	Pristine	Traffic and Transport Analysis, Strategy and Assistance	2008	Pristine Municipality (WB)
Slovakia	Bratislava	Study for GHG Reduction in Transport	2008	UNDP, GEF
Georgia	Tbilisi	Traffic and Transport Analysis, Strategy and Assistance	2007	MDF (WB)
Georgia	National	New Geometric and Structural Design Standards	2006-07	MoED (WB)
Turkey	Istanbul	Parking and Traffic Management Plans	2005-07	Private Sector
Africa				
Uganda	Kampala	Multi-Modal Urban Transport Master Plan	**2016-Ongoing**	KCCA (WB)
Uganda	National	National Physical Development Plan (NPDP)	**2015-Ongoing**	MLHUD (WB)
Zambia	National	National Transportation Master Plan	**2015-Ongoing**	ZMoF (WB)
Congo	Lubumbashi	Improving the public transport infrastructure in Lubumbashi	**2014-Ongoing**	ZMoTWSC
Zambia	Lusaka	Trip Modelling and Cost Analysis for Public Road Transport System	2013	ZMoF
Zambia	National	Mathematical Road Distance Optimization Study for Link Zambia	2013	ZMoF
Tanzania	Zanzibar	Diagrammatic Indicative Structure Plan and Urban Development Policy	2013	Zanzibar Municipality (WB)
Uganda	National	National Transport Strategy and Policy	2012-13	MoWT (WB)
Uganda	Kampala	Detailed Design and Contract Preparation for Pilot Bus Rapid Transit (BRT) Route	2012-13	MoWT (WB)
Uganda	Kampala	Updating Kampala's Structure Plan and Upgrading the Kampala GIS unit	2011-12	KCCA (WB)
Lesotho	Maseru	Urban Planning and Transportation Study	2009-10	MPWT (WB)
Nigeria	Lagos	Transportation Master Plan	2008-9	LAMATA (WB)

Summary of Recent Projects in Israel

Location	Project	Year	Client
Tel Aviv	Metropolitan Regional Travel Habits Survey	**2016-Ongoing**	
Beit Shemesh	Public Transportation Master Plan	**2016-Ongoing**	Jerusalem Muni
Kfar Saba	Public Transportation Master Plan	**2015-Ongoing**	Kfar Saba Muni
National	Monitoring and Supervising the Implementation of all Transportation Infrastructure Projects Financed by the MoT in Municipalities & Local Councils	1998-2002 and 2009-2010	MoT
National	Monitoring construction and expenses of all Israel Rail projects	2009-2012	MoT
Jerusalem	Assistance in the Development of the New Activity-Based Travel Demand Model for the Jerusalem Metropolitan Area	2009-2012	MoT, Jerusalem Muni
Haifa	Monitoring the implementation of the Metronit until start of operation	2011-2013	Karen Noy Fund
National	Sustainable City Contest	2012 – 2013	MoT
Tel Aviv	Traffic Demand and Revenue Forecast of Trips on the Fast Lane at the Entrance to Tel Aviv	2011-2012	Karen Noy
Tel Aviv	Detailed Design, Development and Implementation Managing of BRT system for the Tel Aviv Metro area	2010-2011	MoT
Jerusalem	Parking Scheme for the Jerusalem City Centre	2010-2011	Jerusalem Muni
Haifa	EU Twinning for Haifa PTA	2009-2010	
National	Monitoring and Control of All Municipal Development Budgets	1995-2009	Ministry of Interior
Jerusalem	Priority Schemes for the Jerusalem BRT	2009	MoT, Jerusalem Muni
Haifa	Transportation Studies for Mass Transit Cable Car System (Due Diligence for the Metronit BRT Project)	2008-2009	Haifa Muni
Haifa	Transportation Studies for First BRT Line	2008	MoT, Haifa Muni
Tel Aviv	Congestion Pricing Scheme for the Tel Aviv Metropolitan Area	2007-2008	MoT
Jerusalem	Establishment of a New Public Transport Authority	2006	MoT
Jerusalem	Detailed Design of LRT Line 1	1998-2005	MoT, Jerusalem Muni
Jerusalem	Transportation Master Plan, including BRT and LRT schemes	2000-4	MoT, Jerusalem Muni
Jerusalem	Multi-year Development Plan for Roads and Crossroads	1998	MoT, Jerusalem Muni
Jerusalem	Development of an On-street Parking Policy for Jerusalem	1998	MoT, Jerusalem Muni
National	Due Diligence for Traffic Forecasts and Cost Estimates – Cross Israel Toll Highway	1997	Hapo'alim Bank

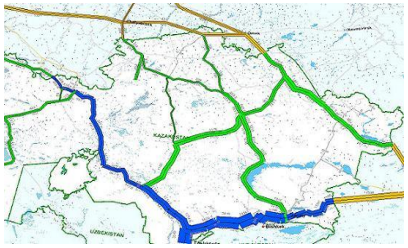
Asia

Khujand (Tajikistan) Public Transport Development Strategy (2010)

ROM was responsible to carry out technical evaluation regarding the existing transit network and to propose a new transit network that will meet the objective of this study. ROM was responsible to carry out technical evaluation regarding the existing transit network and to propose a new transit network that will meet the objective of this study.

Technical Assistance with Establishing a Public Transport Agency for Haiphong (2014-Ongoing)

Haiphong, the second largest city in Vietnam, is suffering from poor public transport services, while straining under the congestion caused by rapid growth. ROM was tasked with the establishment of a Bus Management and Operations Center and a Public Transport Authority for the city and defining its associated responsibilities. The BMOC will be responsible for regulation and planning of all city bus operations and coordinating all new mass transit initiatives and the integration of existing services with new developments, including managing the restructuring of bus-routes and timetables. This includes fare structure development, proposing a budget, defining the BMOC responsibilities, developing legislation and supporting the approval process of the BMOC and implementation of the BMOC through the first year of operation.



City of Almaty Sustainable Transportation (CAST) Project: Sustainable Urban Transport Strategies and Scenarios (2012-2013)

ROM provided the city of Almaty with a holistic, integrated, long-lasting and consistent framework for decision makers dealing with transport related issues. ROM developed a four-step tour-based Travel Demand Model for the Almaty metropolitan area and a sustainable urban strategy, measurable goals, definition and evaluation of scenarios, an investment plan and a long and short range action plan. ROM also identified several pilot projects and developed action plans for their implementation. The strategy included plans for a new mass rapid transit network, transit system reorganization into a fully integrated hierarchical system, strategies and network development of bus lanes, transit hubs and park & ride facilities, a segregated cycling and pedestrian network with maximum connectivity for the network, a bike rental scheme, pedestrian infrastructure improvements, introduction of pedestrian malls and a redesigned road network for sustainable transport principles.

Kazakhstan's "Silk Way" Corridor (2007)

ROM provided design review, demand forecasting for freight and passenger, and preliminary cost estimate for this USD $6 billion civil works project, that is planned to be opened in 2013 and connect Western China with Western Europe. In addition the consultant suggested introducing some state of the art ITS technology for monitoring traffic and toll collection.

Eastern Europe

Varna – Urban Transport, DG-Regio, EU (2011)

The objective of the study is to appraise alternative options and recommend a sustainable, economic and financially viable urban public transport system for European (ERDF) Funding. ROM defined and designed 10 components including preliminary BRT design, ITS system, cycling and walking facilities.

Bucharest-Ilfov Agglomeration Sustainable Urban Mobility Plan (2014-2015)

ROM Transportation Engineering, is currently in the process of developing a Sustainable Urban Mobility Plan for the Bucharest-Ilfov Agglomeration. This undertaking includes a full range of transportation planning activities, in addition to the development of a full multi-modal transportation system. The regional model is to be updated and improved upon and projects are to be designed, analyzed and prioritized to develop comprehensive mobility options for the region. A financial and environmental analysis of each project is to be undertaken. The development of the Sustainable Urban Mobility Plan is being completed as an integrative approach to transportation planning, incorporating all modes of transportation, land use considerations and involve the input of multiple governmental agencies and stakeholders. The plan will also ensure the improved safety of the regional road system and will include an environmental impact assessment. The result will be a full sustainable urban mobility plan and an action plan to ensure that projects are developed on time.





Bratislava Urban Parking Study (2011)

As part of the UNDP/GEF project to reduce GHG emission in Bratislava, it was decided to develop a new parking policy and strategy that will reduce long term parking, eliminate parking violations and promote short term parking, increase parking availability in city centre and increase income from parking management to reinvest in transport improvements. The project intends to develop the new parking policy and strategy, to obtain consensus, to propose the necessary legal reforms and to prepare an action plan

Burgas Urban Transport, Jaspers-EIB (2009)

The objective of this EU-financed project was to improve the bus network, introduce a BRT corridor, increase transit attractiveness through improved accessibility, prioritize environmentally-friendly modes of transit such as BRT and bicycle, and lower levels of pollution. ROM was in charge on modelling, demand, ITS and operational analysis.

Chisinau Public Transport Project – E-ticketing System Design (2012-Ongoing)

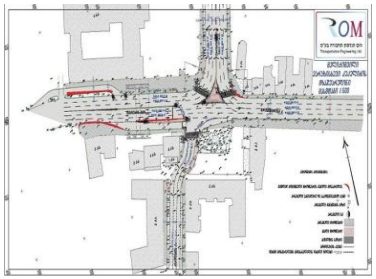
The project for the European Bank for Reconstruction & Development (EBRD) develops and implements an efficient and user-friendly electronic ticketing system for the local public transport system. ROM analyses and strives to meet demand and optimise revenue using cutting edge technology.

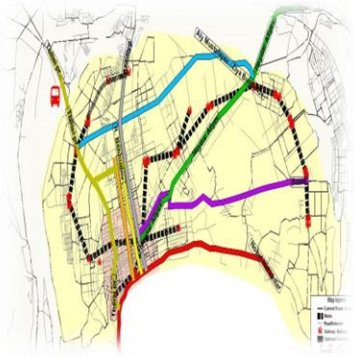


The Caucasus

Traffic Assistance to the Tbilisi Municipality (2007)
ROM was selected by the World Bank to assist the municipality of Tbilisi in developing a transport strategy for the city; reorganizing the local Traffic Department; improving traffic management and parking; improving road safety; and preparing a short and long term transportation investment plan.

New Geometric and Structural Design Standards for Georgia (2006-07)
The Georgian Department of Roads wanted to update the old Soviet design standards and to prepare new design standards that are compatible with current European standards. ROM analyzed the problems associated with the current standards, proposing new functional classification system, proposing new standards





Baku - Restructuring the Public Transit Network (2008-9) ROM led a WB-financed project for restructuring the public transport network in the Baku, a city of 4 million inhabitants. Our work included all aspects of transit restructuring:

- ❑Conduct a variety of surveys including on-board questionnaires and GPS-aided measurements;
- ❑Build a transit modelling tool and use it to restructure the bus system;
- ❑integrate the bus system with metro;
- ❑analyze transit performance and propose BRT corridors

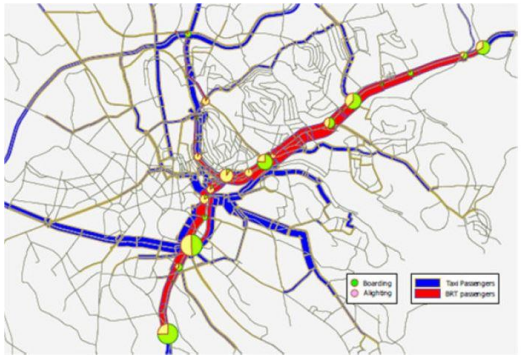
Parking and Traffic Plans for the City of Moscow (2004-05)
ROM serves as chief transportation consultant to Parksym, an urban parking company created in order to address the severe traffic and parking problems in the city. ROM prepared a program for implementing a legalized parking in all the city's streets, using state-of-the-art payment and collection technologies. ROM has also prepared a proposal for reforms in the legal framework, in order to enable the enforcement of the new traffic arrangements. The technological infrastructure proposed by ROM will also make it possible to implement a policy of congestion pricing in Moscow. In addition, EOM prepared plan for 8 parking garages that will serve as off-street parking.

Africa

Update of Kampala's Structure Plan and Upgrade of the Kampala GIS Unit (2011-2012)
ROM updated the physical development plan (PDP) for greater Kampala Metropolitan Area for 2035 and 2022. ROM prepared a thorough situational analysis to determine the proper vision, goals and objectives for the new development.

Greater Kampala BRT Study (2012-2013)
ROM assessed basic transport problems in Kampala, identified a set of BRT corridors and critical success factors and suggested the creation of a regulated public transport sector.

Lagos Transportation Master Plan (2007-2008)
ROM evaluated the current structure and responsibilities of the Lagos Metropolitan Transport Authority, conducted traffic surveys, analyzed development alternatives and proposed investment plans for various infrastructure projects.



Maseru Urban and Transportation Planning (2009)
ROM developed the first-ever TDM for Maseru and conducted many surveys such as an on-board OD for public transport passengers in addition to traffic management assistance working on improvement of the public transit network and congestion reduction.

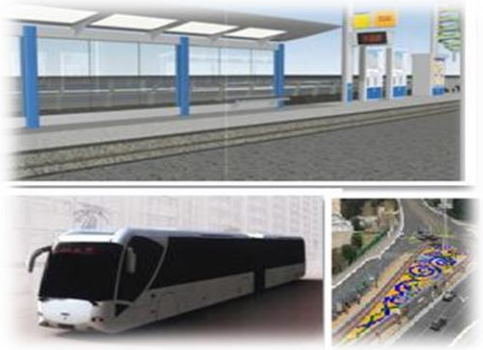
Zanzibar Diagrammatic Indicative Structure Plan & Urban Development Policy (2012-2014)
ROM is in the process of developing an urban development strategy and management approach, conceptual framework plan, draft structure plan, capital investment plan and transportation model for the city of Zanzibar.

Uganda National Transport Strategy and Policy Draft Update (2013-2014)
ROM focused on poverty reduction and economic growth together with the objectives of: identification of regulatory, institutional and financial issues, priority setting for land, water and air transport policy reforms, and preparation of a draft memorandum for cabinet level discussion.

Selected Projects in Israel

Tel Aviv Congestion Pricing (2008)

ROM consulted the Israeli Ministry of Transport regarding the best option to reduce congestion and pollution in the Tel Aviv Metropolitan Area. We prepared a detailed survey of recent worldwide experience, analyzed the transportation, economic and environmental effects of various pricing and restriction options, measured public support for the various options, reviewed the regulatory framework and recommended the optimal scheme.



Tel Aviv BRT Network, Ministry of Transport (2010 – 2011)

The Israeli Ministry of Transport commissioned ROM to conduct a feasibility study for the implementation of 3 BRT lines in the metropolitan area of Tel Aviv. Based on this analysis the ministry financed the implementation plan for the operation of the first BRT line, 'The Red Line', within 2 years.

Traffic Demand and Revenue Forecast on the Fast Lane Entrance to Tel – Aviv (2011-2012)

ROM was contracted to examine projected traffic demand along installed express toll lanes that charge an entrance fee at the city limits along Highway 1, connecting Tel Aviv to Jerusalem. ROM also had to make revenue forecasts for a 30 year concession period and analyze scenarios for toll lane expansion.

Parking Scheme for the Jerusalem City Centre

(2010 - 2011)

The City of Jerusalem is now updating its parking policy to reflect the improvement in accessibility to the city centre by PT means. The municipality also wants to improve its understanding of the balance between demand and supply for parking within the downtown and surrounding neighbourhoods of the city and how it could be further optimized. Therefore, the city needs to collect data of on-street and parking lot activity as well as understand the behaviour and motivation of drivers parking in Jerusalem's centre.

Jerusalem Transportation Master Plan

From 1994 to 2004, Dr. Moshe Hirsh, ROM's general manager, also served as director of the Jerusalem Transportation Master Plan Team (JTMT). This master plan had prepared and promoted mass transit for the Jerusalem Metropolitan Area and included a combination of LRT and BRT lines.

Our Management Team

Dr. Moshe Hirsh
General Manager

Dr. Hirsh has over 35 years of professional experience in policy making and urban transport strategy preparation and implementation. He served as the chief transportation and traffic engineer for the Israel Ministry of Transportation (1986-1989) and the as Israel National Transportation Commissioner (1989-1993). In recent years, he managed several transportation planning projects in Israel and internationally. Moshe holds several engineering degrees, including a Doctorate of Science in Civil Engineering from the Technion – Israel Institute of Technology.

Ofir Cohen
Managing Director

Ofir is a transportation modeler and public transportation expert, with an extensive experience in various projects worldwide. He has designed and applied urban transportation models in Israel and various cities throughout Europe and Asia. Prior to working in ROM, he worked as a task manager for complex TDM studies at Parsons Brinkerhoff. Ofir attended Tel Aviv University, where he earned a dual-bachelor's degree in Computer Science and Electrical Engineering and a masters degree in Geography.

Rachel Amram
Project Manager

Rachel is ROM's senior project manager and quality control expert. Rachel monitors and supervises all the traffic surveys and data collection conducted by ROM in the various assignments and verifies the integrity and the quality of the collected data. Over her tenure at the company, Rachel has led transportation surveys from China to Africa, along the way pioneering advanced and cutting edge methodologies that have become the industry norm.

Our Head Specialists

Igor Golberg
Survey and Data Analysis Expert

Igor works with GIS programs to develop optimal networks for roads, public transport, and non-motorized transport in cities worldwide. He has developed network designs throughout Israel, Europe and Asia. Igor is the director of surveys on the ground and also manages survey department of company, including preparation and analysis of surveys, and the company's survey equipment. Igor holds two BA degrees from Tel Aviv University in Geography and Program Engineering, respectively.

Tahel Wexler
Senior Transportation and Urban Planner

Tahel is the senior transportation and urban planner at ROM. She is well versed in the complexities of urban and transportation planning, and has fielded tasks in a variety of subjects from technical report writing, survey execution, data analysis, GIS database creation and analysis, transportation modeling, presentation of results, scenario building, and project leadership. She has a dual-bachelor's degree in Psychology and Geography, and a master's degree in Geography with a specialization in Urban Planning, from Tel Aviv University.

Bryan Epstein
Transportation Planner and Modeler

Bryan is a transportation planner and modeler at ROM. He has worked on projects in Israel, Zambia, Vietnam and Romania, and specializes in building and maintaining travel demand models for the company's clients. Bryan also has experience in survey execution, data analysis, GIS based analysis and scenario building. Bryan has a dual bachelor's degree in Geography and Politics and a master's degree in Geography with a specialization in Urban Planning. He has had a pivotal role in the company's core projects since 2015.

Managerial Capacities and Quality Control

Our firm has 16 years of experience in international project management. In addition to our technical capacities in the field of transportation we have acquired proficiency in leading, managing and supervising complex transportation projects in a variety of work environments, from developing countries to emerging economies and to technologically-advanced markets. Our management capacities, and our ability to perform complex tasks under tight schedules and budget, have been demonstrated in many projects worldwide.

ROM engages several multi-lingual project managers with international experience. We always assign professional staff with the highest expertise in the relevant fields, and proved experience in similar assignments. In addition, we believe that the best results can be reached by matching international and local expertise. Therefore in all our projects we cooperate with local firms, consultants and experts.

We have been selected as consultant in many World Bank financed projects, and are fully acquainted with all World Bank procedures and standards.

ROM has ISO 9000 certificate since 1997. Two staff members are dedicated to QC/QA. The adopted standards cover all areas including home based and client's site.

DNV

DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 370175

This is to certify that:

ROM TRANSPORTATION ENGINEERING LTD.

at

97 Jaffa st.
Jerusalem , Israel

has been found to conform to the Management System Standard:

ISO 9001:2000

This Certificate is valid for the following product or service ranges:

BUDGET SUPERVISION AND CONTROL SERVICES FOR INFRASTRUCTURE BUILDING AND TRANSPORTATION DEVELOPMENT PROJECTS.

Initial Certification date: 20/12/2005

This Certificate is valid until: 31/12/2011

The audit has been performed under the supervision of: Yaron Orly, *Lead Auditor*

MGMT.SYS. RvA C 024

Place and date: Barendrecht, 31/12/2008

for the Accredited Unit: DET NORSKE VERITAS CERTIFICATION B.V., THE NETHERLANDS

B. Poldermans, *Management Representative*

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

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