

Sustainable Transport and Urban Mobility in Jordan

Turki Obaidat

Prof. of Transportation Engineering
Jordan University of Science & Technology
(JUST)

Scope of the presentation

- Encouraging Usage of Public Transport
- Improving Traffic Operation and Parking Management
- Reducing Traffic Accidents
- Improving the Traveller Information Services
- Reducing Air Pollution and Noise Levels in Urban Areas

Contents

- Overview of Jordan Univ. of Science & Technology (JUST)
- Research funding in Jordan
- Key research projects and programmes in Jordan
- Current involvement/experiences of international cooperation in Jordan
- Research priorities and key topics in Jordan
- Expectations from cooperation with EC

Overview of JUST

- Established in 1986
- Located 70 km to the north of Amman (the Capital)
- Maintains high reputation among the Middle Eastern universities
- Ranked as the top research university in Jordan
- 22000 undergraduate and 2000 graduate students, 20% from outside Jordan.
- 800 full-time faculty members
- 42 undergraduate programs and 95 graduate programs
- Member in the Union of the Mediterranean Universities (UNIMED)

Overview of JUST

- Department of Civil Engineering
 1. Transportation Engineering
 2. Structural Engineering
 3. Water Resources and Environmental Engineering
 4. Geotechnical Engineering

Overview of JUST

- **Transportation Engineering Group**
 - 11 Faculty Members (6 Full Prof., 2 Associate Prof. and 3 Assistance Prof.)
 - 20 graduate students (Master Program)
 - More than 500 publications in well-known international journals and conferences
 - Well equipped highway, GIS, remote sensing and computer vision laboratories
 - Research, training and consultation cooperation inside and outside Jordan

Overview of JUST

- Transportation Engineering Research Experiences
 - Traffic operation and management
 - Traffic accidents, road safety, and Safety of pedestrians
 - Capacity analysis of roads and intersections
 - Improvements of at-grade intersections and interchanges
 - Parking evaluation and management
 - Traffic environmental pollution
 - Evaluation, maintenance and management of roads
 - limited research on public transport and applications of ITS

Overview of JUST

- Main Sources of Research Funding
 - JUST funding
 - National Scientific Research Support Fund
 - European Commission
 - United States Agency for International Development (USAID)
- Most of the external funding on water treatment, environmental pollution, energy, agricultural sciences and ICT

Research funding in Jordan

- Main funding organisations
 - Scientific Research Support Fund
 - The Higher Council for Science & Technology
 - Abdul Hameed Shoman Foundation
 - The Scientific Foundation of Hisham Hijawi
 - National Research & Development Centres
 - Private Industrial Companies
 - EU, USAID, UNDP, WHO, UNISCO,...etc (External Funding)

Research funding in Jordan

- Main funding frameworks
 - Applied Research
 - Technology Transfer
 - Institutional Development
 - Sustainable Development
 - Best Practices and Quality Assurance
 - Improving Research Skills
 - Intellectual Property

Research funding in Jordan

- Types of research projects
 - Renewable Energy
 - Water treatment and Management
 - Environmental Protection
 - Health Care
 - Biotechnology and Stem Cells
 - Pavement Performance of Roads and Road Safety
 - Nanotechnology
 - Communication and Information Technology

Research funding in Jordan

- Key stakeholders
 - Public and Private Universities
 - State and Private Research Centres
 - Municipalities and Local Society
 - Governmental Ministries and Agencies
 - National Industry Corporations

Key Research Projects and Programmes in Jordan (Some Examples)

- Introducing new technologies and advanced methodologies for asphalt mixtures (SRSF and JUST, Euro 280,000)
- Introducing concentrated solar energy concept for tri-generation: electricity, cooling, and desalination (SRSF and Mutah Univ., Euro 500,000)
- Investigation of best stem cell source on a scaffold to create full thickness human skin in an efficient, fast and reliable method (SRSF and Univ. of Jordan, Euro 400,000)

Current involvement/experiences of international cooperation in Jordan

- **Funding body:** EU, Tempus IV
- **Partner countries:** Sweden, Slovakia, and Egypt
- **Project:** EU-EG-JO Joint Master Programme in Intelligent Transport Systems (ITS)
- **key activities:** Develop and offer ITS Master programme based on successful course materials, knowledge and teaching methods available at EU universities.
- **Benefits:** Solving current and future transport problems and challenges

Research priorities and key topics in Jordan in Cooperation with EU

- **Research Topics:**

Improving public transport, encouraging usage of public transport, improving traffic operation, sustainable transport planning and policies, parking management, and traveller information services

- **Research Partners:**

EU universities and public transport associations, universities and municipalities in Jordan, Universities in MPC and other important PT agencies.

Research priorities and key topics in Jordan in Cooperation with EU



- **Scope and duration of proposed projects:**
 - Projects will cover three cities in Jordan; Amman, Irbid and Al-Zarqa.
 - Other urban developing areas will be considered.
 - Duration of each project from 1- 2 years.
- **Potential benefits:**
 - Increase the percentage of people using public transport.
 - Reduce traffic congestions and accidents.
 - Reduce air and noise pollution.
 - Reduce travel time and fuel consumption.
 - Manage the urban space in CBD areas.

Expectations from cooperation with EC

- Reasons for involvement with EC funded projects:
 - Disseminate the best practices in urban mobility.
 - Study the effects of rapid bus systems and smart technologies on traffic congestions.
 - Development of an integrated database for urban mobility solutions.
 - Study the effect of land-use planning on public transport policies
 - Evaluation of the current status and potential roles of traveller information services in mobility management in urban areas.

Expectations from cooperation with EC

- kind of organisations in Europe: EU universities, Union of Mediterranean Universities, research centres, and public transport associations
- kind of activities to be carried out:
 - Networking with EU and MPC
 - Applied research
 - Supervision of post-graduate students
 - Technical demonstration on new technologies
 - Develop best practices and performance measures manuals
 - workshops and short training courses

Contact details: Prof. Dr. Turki I. Obaidat
Department of Civil Engineering
Jordan University of Science & Technology
P.O. Box 3030
Irbid – Jordan
Email: turk957@just.edu.jo
Mobile: ++ 962 799640003
Website: www.just.edu.jo

THANK YOU!