



Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore



METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

No. CE/TEPA/LDA/ 48

Date: 24-01-2018

1. **The Secretary,**  
**Government of the Punjab,**  
P&D Department, Lahore (Chairman JCC)
2. **The Secretary,**  
**Government of the Punjab,**  
HUD & PHE, Lahore (Member of JCC)
3. **The Secretary,**  
**Government of the Punjab,**  
Transport Department, Lahore (Member of JCC)
4. **The Director General,**  
Lahore Development Authority (Member of JCC)
5. **The Chief Traffic Officer, Lahore** (Member of JCC)
6. **DCO, Lahore** (Member of JCC)
7. **The Member Infrastructure Development**  
**Government of the Punjab,**  
P&D Department, Lahore (Member of JCC)
8. **The Chief (Transport)**  
P&D Department, Lahore
9. **The Deputy Managing Director**  
Water and Sanitation Agency (WASA), Lahore
10. **The Representative of JICA Pakistan Office** (Member of JCC)
11. **JICA Project Consultant** (Member of JCC)

**Subject: LITMC Study – 4<sup>th</sup> meeting of Joint Coordinating Committee (JCC)**

Traffic Engineering and Transport Planning Agency (TEPA), with the assistance of Japan International Cooperation Agency (JICA) started the "Project on Improvement of Traffic Management Capacity in Lahore Central Area". The objectives of this project are the improvement of traffic congestion in the Lahore Central Area through the capacity development of traffic management related agencies. This is a Technical Cooperation Project with the following expected outputs:

1. Capacity Development of TEPA and related organizations for traffic management would be conducted through training.
2. Institutional and personal capacity of TEPA for traffic management is to be enhanced mainly through implementation of Pilot Project(s).
3. Pilot Project(s) are summarized into "handbook" to be shared among TEPA and related organizations as a reference for other areas' improvement.
4. Traffic Management Improvement Plan for Lahore Central area.

The JICA Project team is continuously endeavoring to achieve the desired goals of this





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project by involving counterpart TEPA Staff, allied field formations and different government/ semi-government authorities. To do the best for this Pilot Project, all desired components have been selected carefully considering several factors, namely, the seriousness of the issues, ease of implementation, social environmental aspects and budget. The planning of the Pilot Project was discussed and approved beginning with the 1<sup>st</sup> until the 3<sup>rd</sup> Joint Coordinating Committee (JCC) Meetings, together with Working Group Meetings.

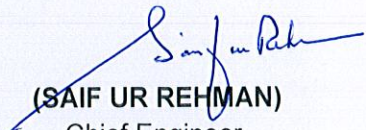
With the go-ahead given for the Pilot Project implementation at the 3<sup>rd</sup> JCC Meeting, not only hardware such as sidewalk improvement and intersection improvement but also software such as traffic safety campaign started in mid-November 2017. The Pilot Project implementation was supposed to start in August 2017; however, despite the JCC Chairman's last comment at the 3<sup>rd</sup> JCC regarding the need for careful coordination with relevant agencies, a delay still happened. Actually, agencies to coordinate with are not only Working Group members but also schools, hospital and business associations along Queens Road.

The JICA project team organized 4<sup>th</sup> meeting of Working Group on January 19, 2018, wherein following points were discussed and finalized:

- Implementation Plan of the Pilot Project (Intersection and Traffic signal improvement, On-street parking measures and Pedestrian facility improvement)
- Progress of pilot project construction
- Result of Pre-Traffic Survey and Pre-Mobility Management Survey
- Outline of Traffic Safety Campaign
- Schedule of the Pilot Project

In order to confirm the decision of the 4<sup>th</sup> Working Group meeting, 4<sup>th</sup> Joint Coordination Committee (JCC) meeting of this project is scheduled to be held on **25<sup>th</sup> January, 2018 at 10:30 a.m. Hrs in the Committee Room No.1 of Planning & Development Department**, under the chairmanship of the Secretary to Government of the Punjab, P&D Department (Chairman of the JCC). You are cordially invited to attend the meeting on the scheduled date, time & venue.

Agenda of the meeting is attached herewith.

  
(SAIF UR REHMAN)  
Chief Engineer,  
TEPA, LDA





Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore



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Tokyo, Japan

### AGENDA

#### 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room#1, P&D Department, Lahore

Date: 25<sup>th</sup> January, 2018

Time: 10:30 am to 12:00 pm

10:30 – 10:40

Opening Keynotes

Mr. Iftikhar Ali Sahoo, Secretary, P&D Department (in Chair)

10:40 – 11:30

Presentation of the Project outline

Mr. Saif-ur-Rehman, Chief Engineer, TEPA

(Introduction)

Mr. Masato KOTO, Chief Consultant, JICA LITMC Project Team

(Brief overview & approach to the pilot project)

Mr. Muhammad Waqar Aslam (Team Leader, TEPA)

- Implementation Plan of the Pilot Project (Intersection and Traffic signal improvement, On-street parking measures and Pedestrian facility improvement)
- Progress of pilot project construction

Mr. Nauman Haider (Assistant Director P&D –TEPA)

- Result of Pre-Traffic Survey
- Outline of Traffic Safety Campaign
- Result of Pre-Mobility Management Survey

Mr. Masato KOTO, Chief Consultant, JICA LITMC Project Team

- Schedule of the Pilot Project

11:30 – 11:50

Discussion

11:50 – 12:00

Closing Remarks

Mr. Iftikhar Ali Sahoo, Secretary, P&D Department (in Chair)



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11:30 – 11:50

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Closing Remarks

Mr. Iftikhar Ali Sahoo, Secretary, P&D Department (in Chair)



# PROJECT ON IMPROVEMENT OF TRAFFIC MANAGEMENT CAPACITY IN LAHORE CENTRAL AREA

THE GOVERNMENT OF PUNJAB  
ISLAMIC REPUBLIC OF PAKISTAN

4<sup>th</sup> Joint Coordinating Committee Meeting

**Pilot Project**  
25 January 2018

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

METS RESEARCH & PLANNING, INC.  
CTI ENGINEERING INTERNATIONAL CO., LTD.

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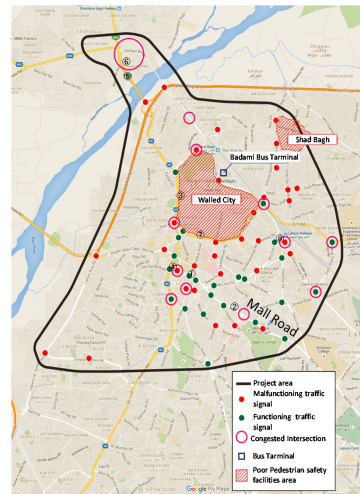
1. Outline of the Project
2. Overall Project Schedule
3. Concept of the Pilot Project
4. Corridor Management along Queens Road
5. Mobility Management and Traffic Safety Campaign
6. Coordination with Relevant Organization
7. Pre-traffic Survey Results
8. Current Status of Pilot Project
9. Coordination with Traffic Police Officers
10. Traffic Simulation
11. Schedule of the Pilot Project

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## 1. Outline of the project

### [Project outputs]

- (1) Capacity Development for traffic management of TEPA and related organizations is conducted through training.
- (2) Institutional and personal capacity for traffic management of TEPA is enhanced mainly through implementation of Pilot Project.
- (3) Pilot Project are summarized into “handbook” to be shared among TEPA and related organizations as a reference for other areas’ improvement.
- (4) Traffic management improvement plan in Lahore is developed.



Project Area

3

## 2. Project Schedule

Year	2016			2017				2018				
	Feb – Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
WORK PLAN	<b>Current Situation Analysis</b> <ul style="list-style-type: none"> <li>(1-1) Needs Assessment of the CP members</li> <li>(1-2) Development of Training plan</li> <li>(2-1) Traffic condition survey</li> <li>(2-2) Identify of traffic management issues</li> <li>(2-7) Organizational frameworks of TEPA</li> <li>(3-1) Review the Existing handbook and manual</li> </ul>			<b>Institutional / Personal Development</b> <ul style="list-style-type: none"> <li>(1-3,4) Conduct training courses</li> <li>(1-6) Conduct work shops/Seminar</li> <li>(2-8) Preparation of institutional improvement Plan</li> </ul>				<b>Institutional Development</b> <ul style="list-style-type: none"> <li>(2-9) Monitoring of the institutional improvement Plan</li> </ul>				
				<b>Planning for Pilot Project</b> <ul style="list-style-type: none"> <li>(2-3) Planning of the Pilot project (Selection of pilot project area and implementation items, Design, Integration, Coordination with Relevant organization )</li> </ul>		<b>Implementation of Pilot project</b> <ul style="list-style-type: none"> <li>(2-4) Implementation (Construction, M/M, Traffic safety Campaign)</li> <li>(2-5) Traffic Survey</li> </ul>		<b>Analysis of Pilot Project</b> <ul style="list-style-type: none"> <li>(2-6) Traffic simulation</li> </ul>				
				<b>Development of Handbook and Manuals</b> <ul style="list-style-type: none"> <li>(3-2,3) Pilot project handbook and Intersection Design manual</li> </ul>								
				<b>Preparation of Traffic Management Plan</b> <ul style="list-style-type: none"> <li>(2-10, 4-1) Traffic Management Plan</li> </ul>								
WG												
JCC												

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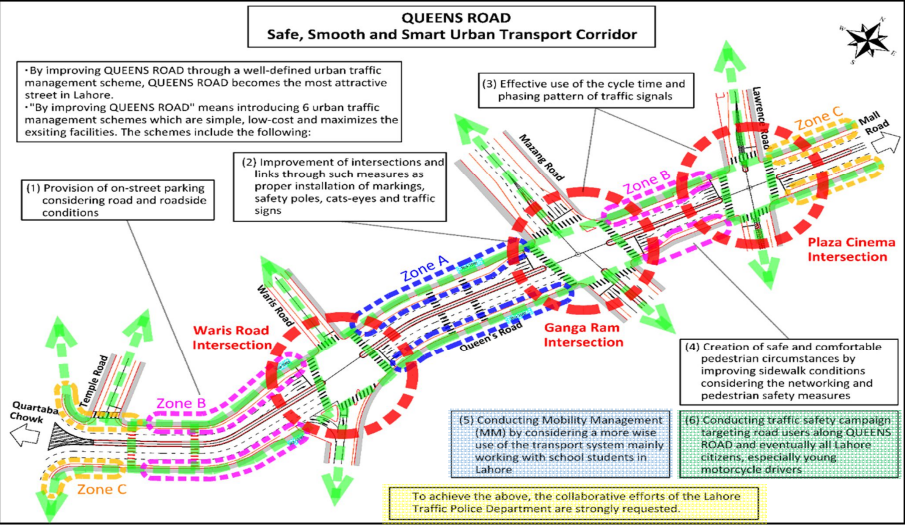
### 3. Concept of the Pilot Project

- Punjab Government shifts the transport planning priority from car friendly to car and public transport friendly based on the current public transport system development.
- Based on these circumstances, the Pilot Project is going to consider not only cars but also public transport and pedestrians, and moreover, considering the urban activities along the road.

Therefore, the catchphrase of the Pilot Project along Queens Road is **“Safe, Smooth and Smart Urban Transport Corridor – Queens Road”**.

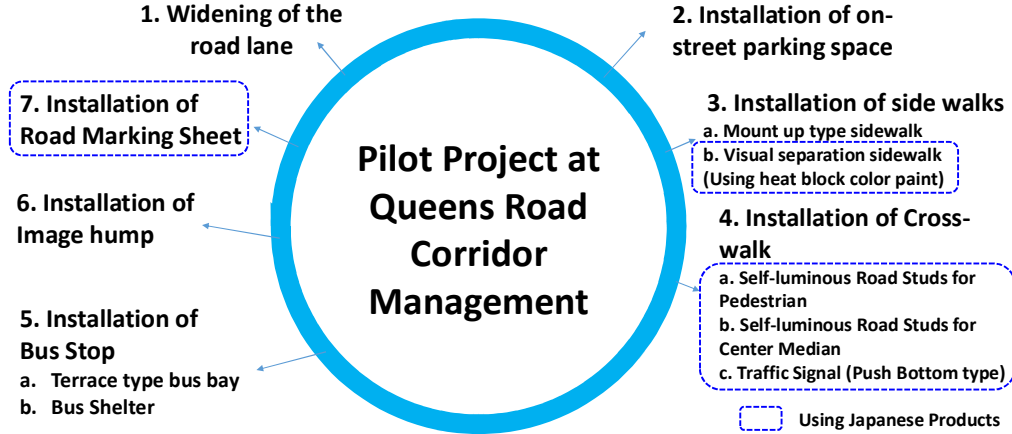
- ◇ **Safe** means considering the safety of all road users.
- ◇ **Smooth** means smooth mobility not only for cars (but keeping speed limit) but also for pedestrians walking on continuous sidewalk space.
- ◇ **Smart** means effective use of road space by car drivers, roadside shop owners/business persons and pedestrians.

### 3. Concept of the Pilot Project



### 4. Corridor Management along Queens Road

Basically, what sort of activities we are carrying out along Queens Road?



In short, we are re-dressing the Queens Road to make it an attractive urban transport corridor to all Lahore citizens.

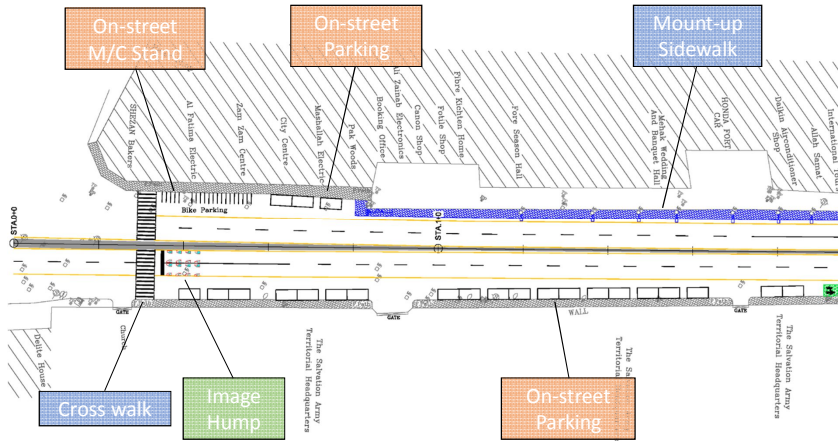
### 4. Corridor Management along Queens Road





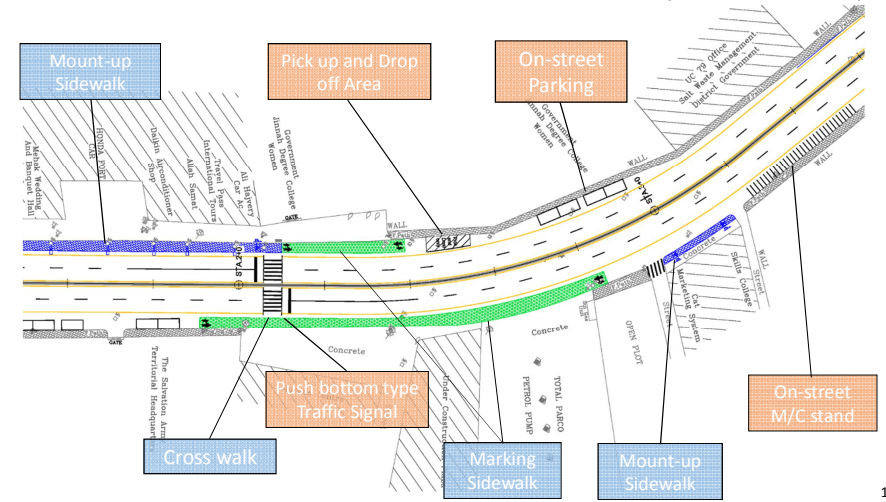
#### 4. Corridor Management (Qartba Chowk - Waris Road)

Queens Road (Qartba Chowk - Waris) 1/7



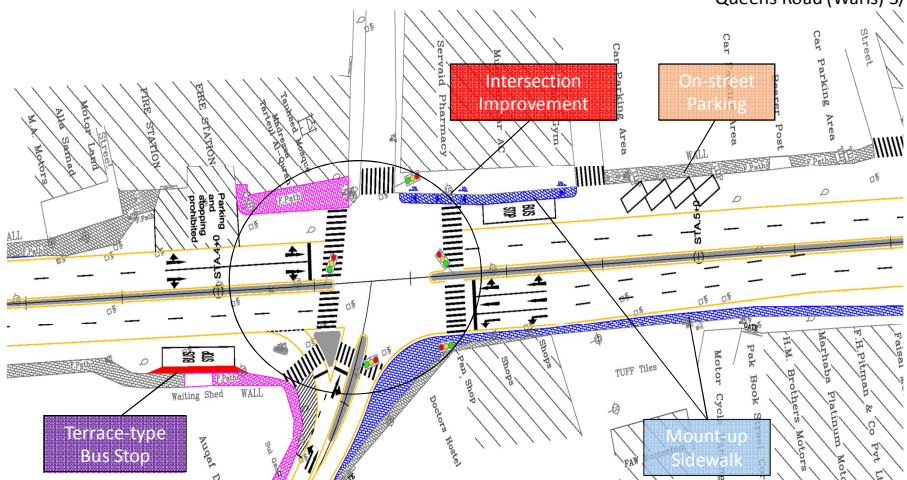
#### 4. Corridor Management (Qartba Chowk - Waris Road)

Queens Road (Qartba Chowk - Waris) 2/7



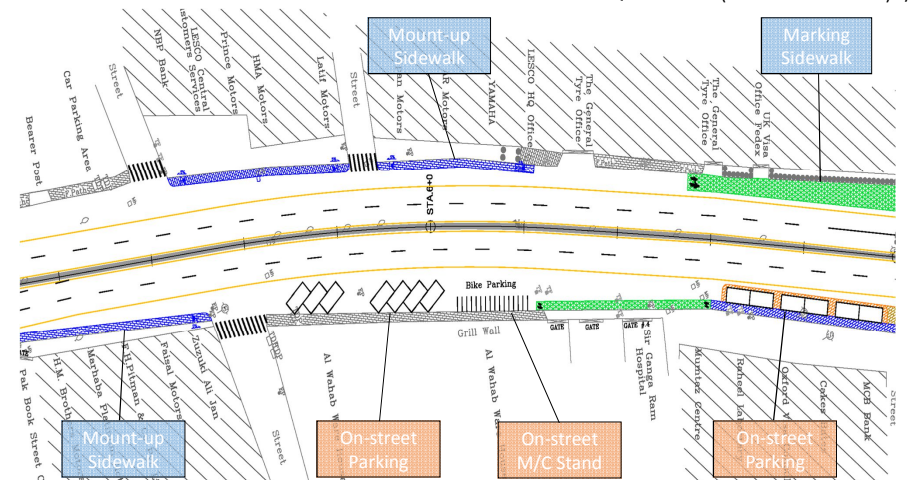
#### 4. Corridor Management (Waris Road - Mazang Road)

Queens Road (Waris) 3/7



#### 4. Corridor Management (Waris Road - Mazang Road)

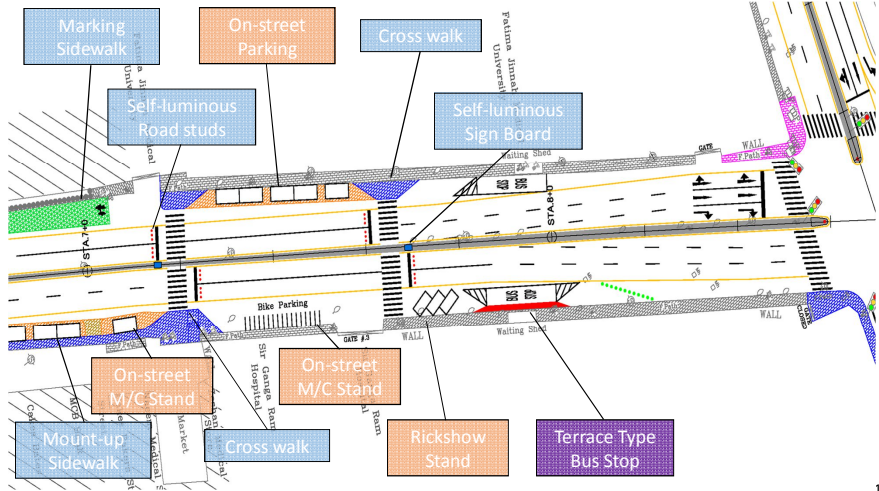
Queens Road (Waris-Plaza Cinema) 4/7





#### 4. Corridor Management (Waris Road – Mazang Road)

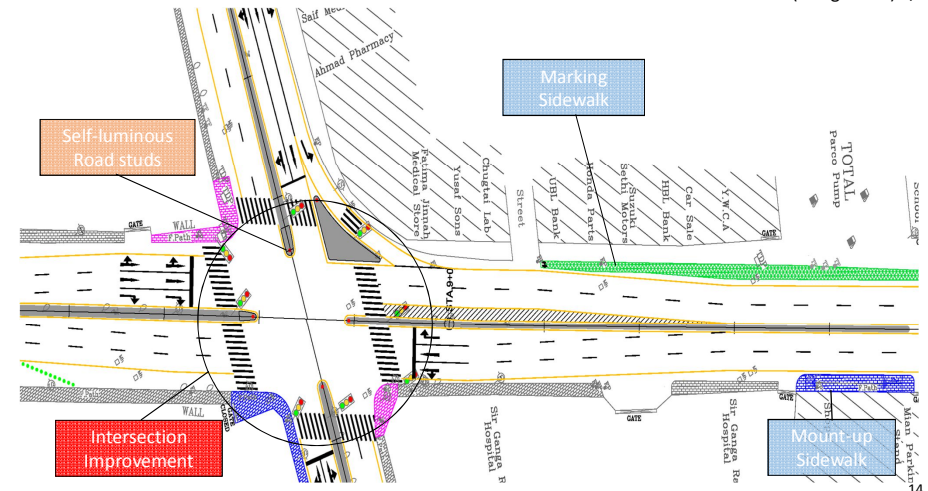
Queens Road (Waris-Plaza Cinema) 5/7



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#### 4. Corridor Management (Mazang Road – Lawrence Road)

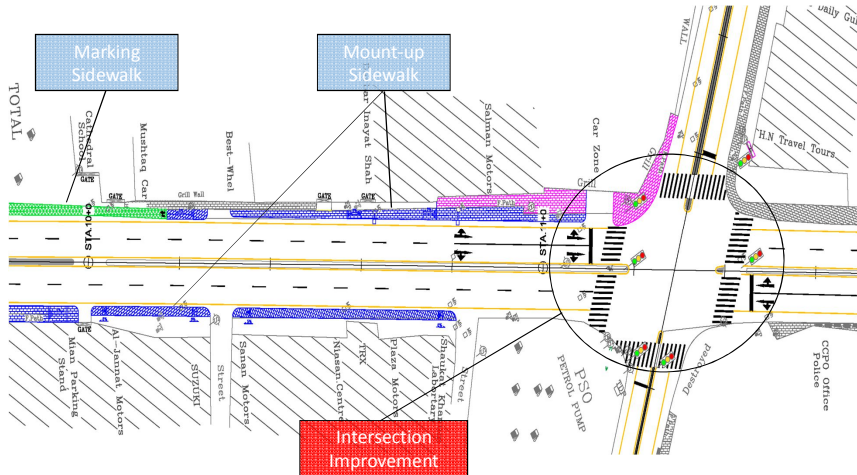
Queens Road (Ganga Ram) 6/7



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#### 4. Corridor Management (Mazang Road – Lawrence Road)

Queens Road (Ganga Rum-Plaza Cinema) 7/7



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#### 5. Mobility Management and Traffic Safety Campaign

Aside from the physical improvement of Queens Road, what other activities you intend to undertake?

1. Mobility Management Campaign / Survey
3. Pre and Post Traffic Survey
4. Supporting Measures of Traffic Police Officers to Enforce Traffic Violators

2. Safety Campaign
  - a. On TV
  - b. On Radio
  - c. On newspaper
  - d. On SNS/ Website
  - e. Banners
  - f. Poster
  - g. T-shirt / Cap

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## 6. Coordination with Relevant Organization

### Who are the stakeholders involved in this project?

#### Joint Coordinating Committee

Sec., P&D Department      DCO Office (DRTA)  
 Sec., HUD & PHE          Infrastructure Development (P&D)  
 Sec., Transport Department      Chief, Transport (P&D)  
 DG, LDA                      JICA Pakistan Office  
 Chief, Traffic Police              JICA Expert Team

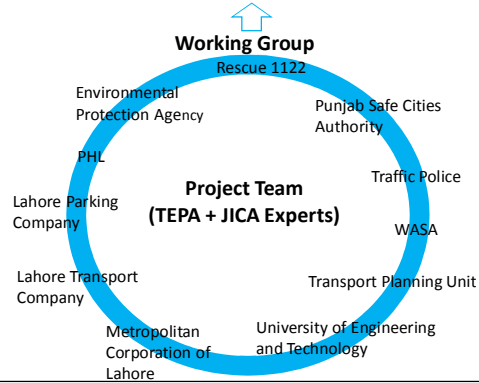
#### Targets for Campaign

Students of selected schools  
 Pedestrian Users  
 Shop owners  
 Drivers  
 Young motorcycle riders

#### Targets along Queens Road

Electricity Shop Association  
 Automobile Shop Association  
 Fatima Jinnah Medical College  
 Government Jinnah Degree College for Women  
 Ganga Ram Hospital

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## 6. Coordination with Relevant Organization (1)

No.	Discussion Places	Topics	Meeting Date	PIC (TEPA)
1	Aldo International (Contractor)	- Shop Drawing - Bus Shelter Design - Work Method - Work Schedule	1 <sup>st</sup> :10/30 15:00~ 2 <sup>nd</sup> :11/4 11:00~ 3 <sup>rd</sup> :11/16 11:00~	Zahid Abbas
2	PHA	- Pruning and logging of trees due to construction	Issue a request letter	Zahid Abbas
3	WASA	- Repair of Catch Basin	After Repair work	Khurram san 18

## 6. Coordination with Relevant Organization (2)

No.	Discussion Places	Topics	Meeting Date	PIC (TEPA)
5-3	Jinnah Degree Collage	- Explain about Final design, Construction Schedule and Work method	2 <sup>nd</sup> week of November	Sajida san
5-4	Fatima Jinnah Medical University	- Explain about Final design, Construction Schedule and Work method	2 <sup>nd</sup> week of November	Usman and Abbas san
6	Lahore Transport Company	- Explain about Final design of Bus shelter, Construction Schedule and Work method	11/2 11:00~	Waqar and Sajida san

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## 6. Coordination with Relevant Organization (3)

No.	Discussion Places	Topics	Meeting Date	PIC (TEPA)
9	Traffic Police	- Discussion on Traffic enforcement	Discuss within JCC meeting	Waqar san
10	Auto Mobile Association	- Explain about Construction for Bus Stop	Issue a letter on	Waqar san



Fatima Jinnah Medical College & Ganga Ram Hospital Administration

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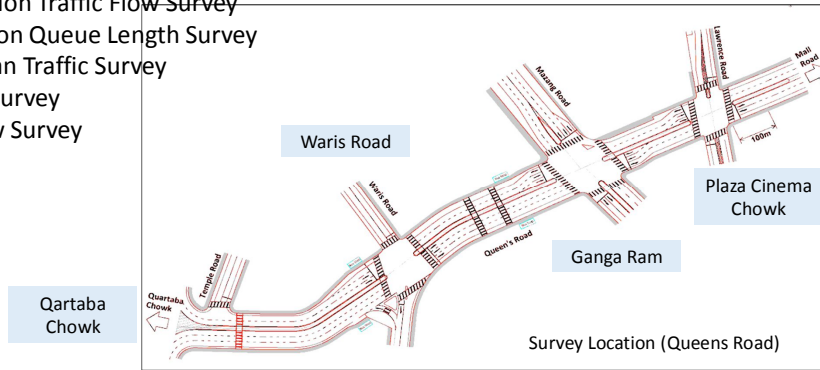


## 7. Pre-traffic survey (Traffic Count, Travel Speed, Parking, etc.)

Purpose: Assessment of traffic conditions and image of road users before and after the Pilot Project

[Type of Traffic Survey]

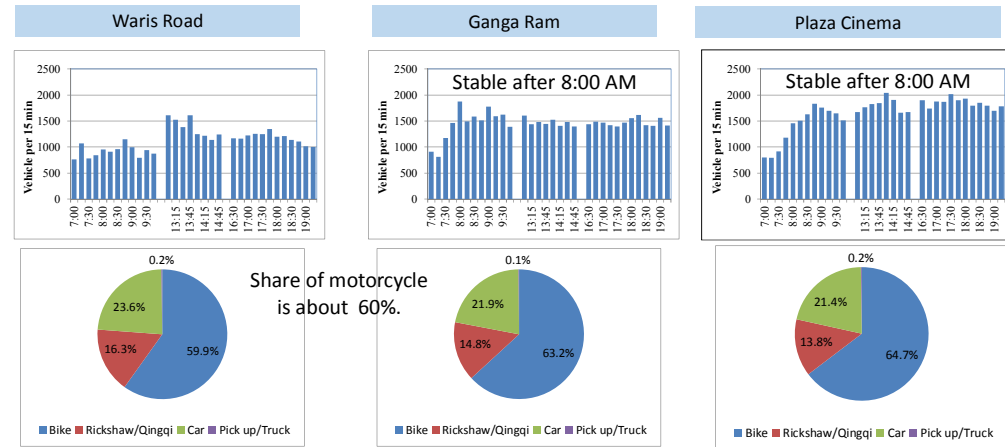
- Intersection Traffic Flow Survey
- Congestion Queue Length Survey
- Pedestrian Traffic Survey
- Parking Survey
- Interview Survey



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## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### Summary of Traffic Count Survey (Time Distribution and Vehicle Composition)

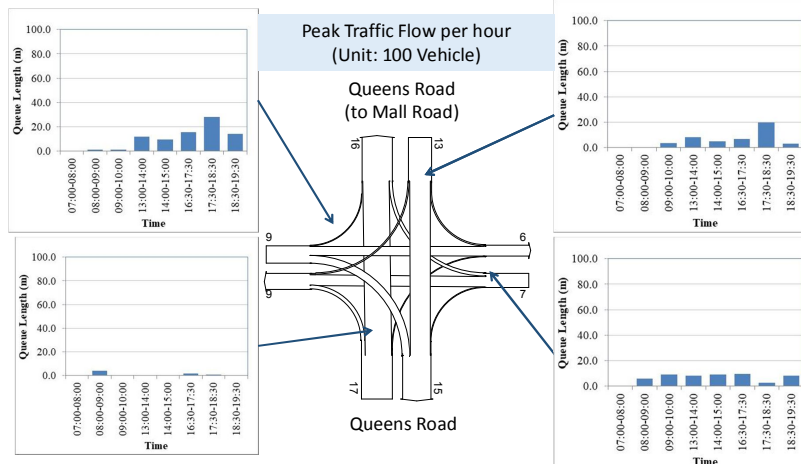


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## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (1) Plaza Cinema - Traffic Flow and Queue Length Survey

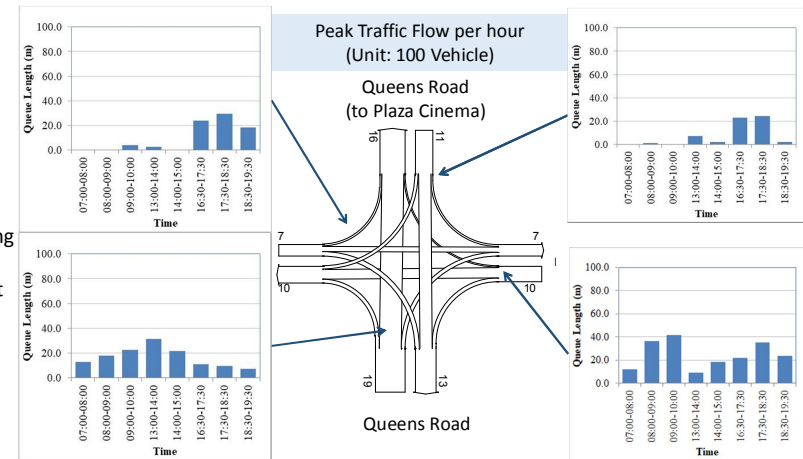
- Max. volume of traffic is 1,700 vehicle per hour along Queens Road south to north.
- The longest queue length can be observed along Lawrence Road during the evening commuting hour at 18:30 - 19:30.



## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (2) Ganga Ram - Traffic Flow and Queue Length Survey

- Max. volume of traffic is 1,600 vehicle per hour from Queens Road south.
- The longest queue length can be observed along Mazang Road during the morning commuting hour at 09:00 - 10:00.

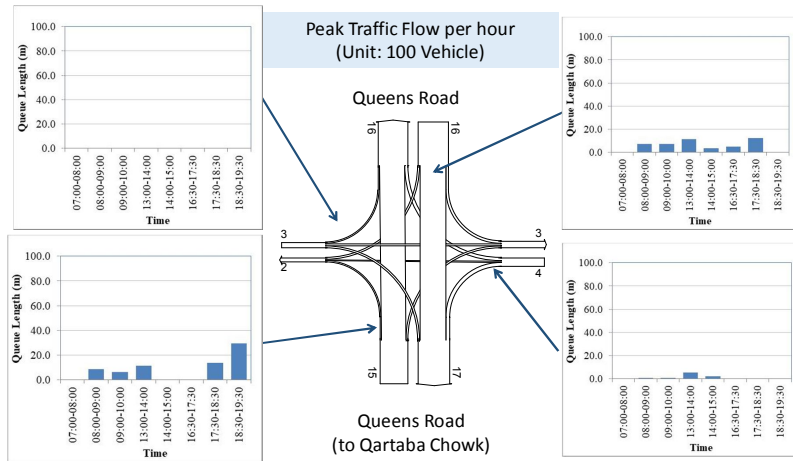




## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

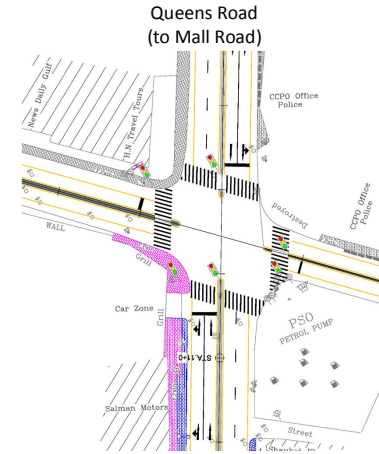
### (3) Waris Road - Traffic Flow and Queue Length Survey

- Max. volume of traffic is 1,600 vehicle per hour along Queens Road.
- The longest queue length can be observed along Queens Road (south to north) at 18:30 -19:30.



## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### Traffic Signal Phasing Improvement at Plaza Cinema Intersection



Current Phase

Phase				Σλ		
1	2	3	4	morning	noon	evening
				1.66	1.85	2.02

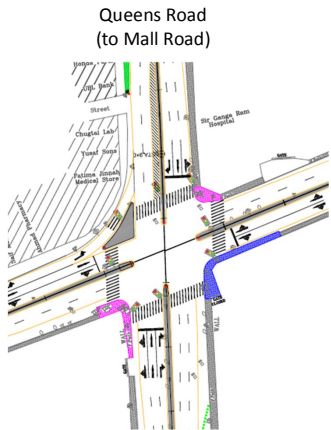
Improved Phase

Phase				Σλ		
1	2	3	4	morning	noon	evening
				1.34	1.49	1.54

Prohibit right turn from QueensRD

## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### Traffic Signal Phasing Improvement at Ganga Ram Intersection



Current Phase

Phase				Σλ		
1	2	3	4	morning	noon	evening
				1.31	1.52	1.54

Improved Phase

Phase				Σλ		
1	2	3	4	morning	noon	evening
				1.09	1.32	1.26

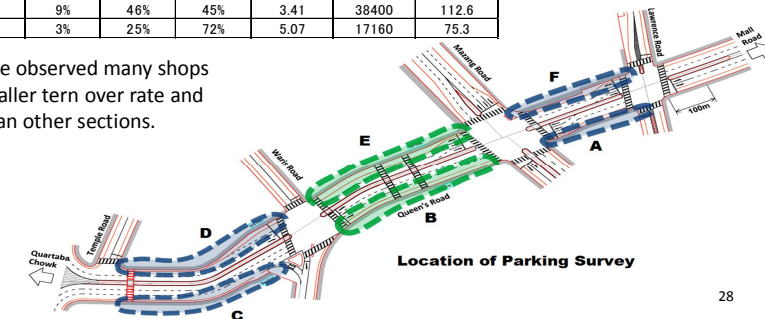
Make a right turn phase from Queens RD.

## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (4) On-street Parking Survey

Location	Max of Vehicles parked (Capacity)	Total Number of vehicles parked	Vehicle Share			parking turnover rate	Total Parking Time (min)	Average parking Time (min)
			Rickshaw	Car	Bike			
Location A	21	85	6%	52%	42%	4.05	6330	74.5
Location B	104	306	6%	48%	46%	2.94	46170	150.9
Location C	139	277	5%	42%	53%	1.99	59340	214.2
Location D	182	372	8%	37%	55%	2.04	80130	215.4
Location E	100	341	9%	46%	45%	3.41	38400	112.6
Location F	45	228	3%	25%	72%	5.07	17160	75.3

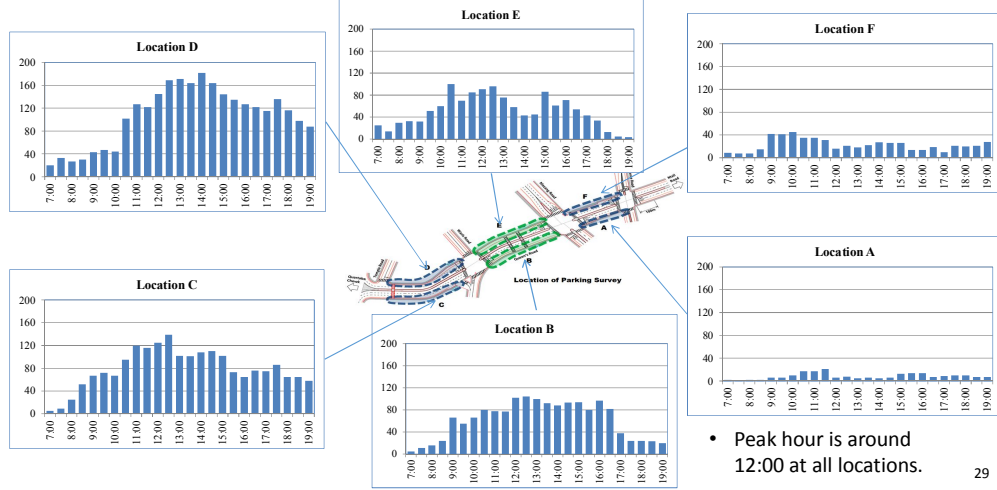
- Location C and D can be observed many shops along the roads, so smaller turn over rate and longer parking time than other sections.



Location of Parking Survey

## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (4) On-street Parking ( Time Distribution by Location)

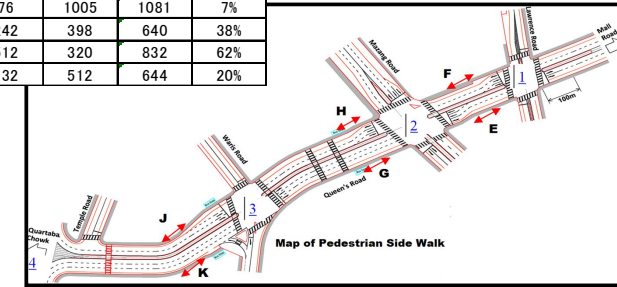


## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (5) Pedestrian Traffic Count (Sidewalk)

- Percentage of Pedestrian walking in the sidewalk is Low at section F, G and K, because of many obstacles on the sidewalk such as on-sidewalk vendors.

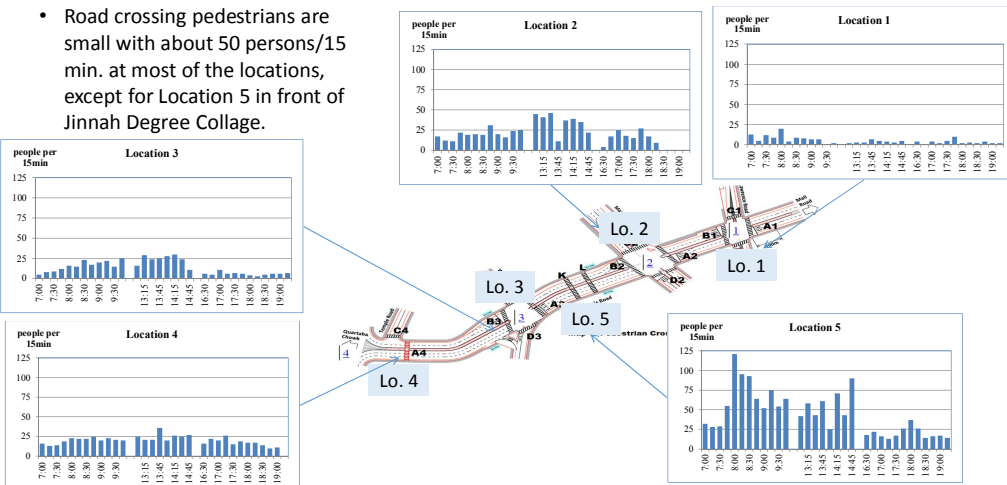
Side Walk Locations	Peak Hour	Peak Volume	Inside Side walk	Outside side walk	Total	Rate of Inside
E	08:45 a.m – 09:45 a.m	78	179	202	381	47%
F	01:45 p.m – 02:45 p.m	148	62	497	559	11%
G	01:00 p.m – 02:00 p.m	259	76	1005	1081	7%
H	01:00 p.m – 02:00 p.m	155	242	398	640	38%
J	01:00 p.m – 02:00 p.m	213	512	320	832	62%
K	01:15 p.m – 02:15 p.m	111	132	512	644	20%



## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

### (5) Pedestrian Traffic Count (Pedestrian Crossing)

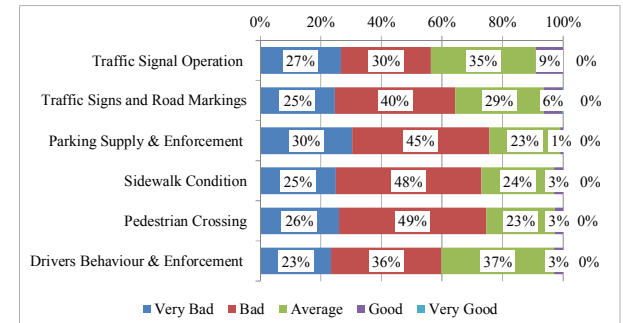
- Road crossing pedestrians are small with about 50 persons/15min. at most of the locations, except for Location 5 in front of Jinnah Degree Collage.



## 7. Pre-survey Results (Traffic Count, Travel Speed, Parking, etc.)

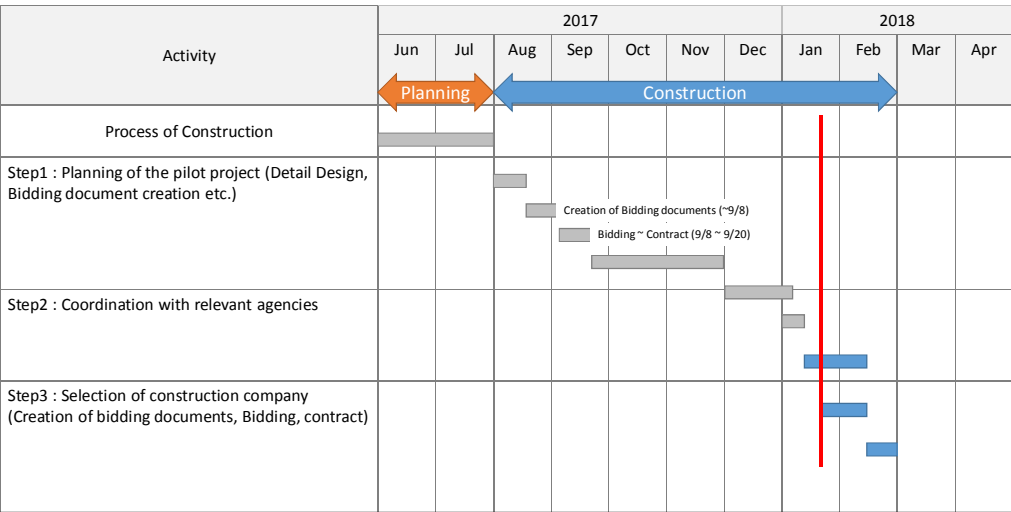
### (6) Interview Survey (Assessment of Traffic Situation)

- All items evaluated low level with more than 50 % of “Very bad “ and “bad”, especially Parking and sidewalk/crossing issues.

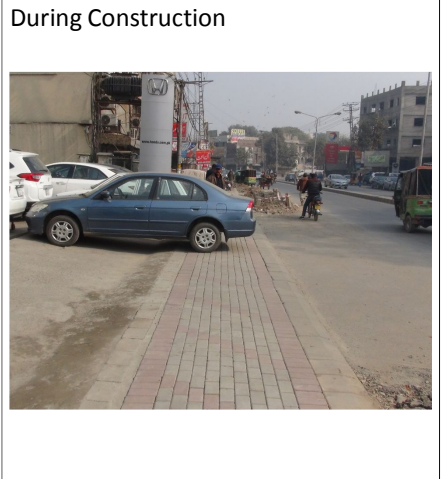




### 8. Current Status of Corridor Management along Queens Road



### 8. Current Status of Corridor Management along Queens Road (1) Sidewalk Improvement Work



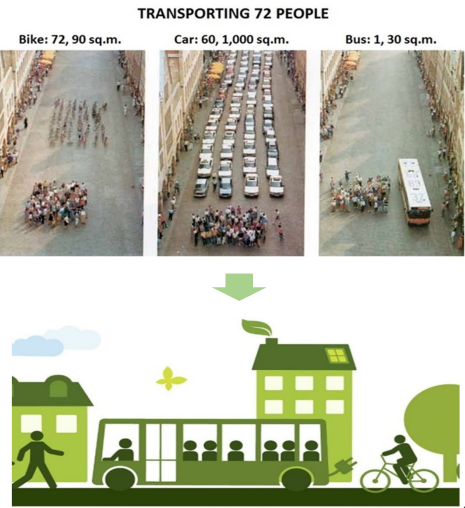
### 8. Current Status of Mobility Management (1)

#### What is Mobility Management?

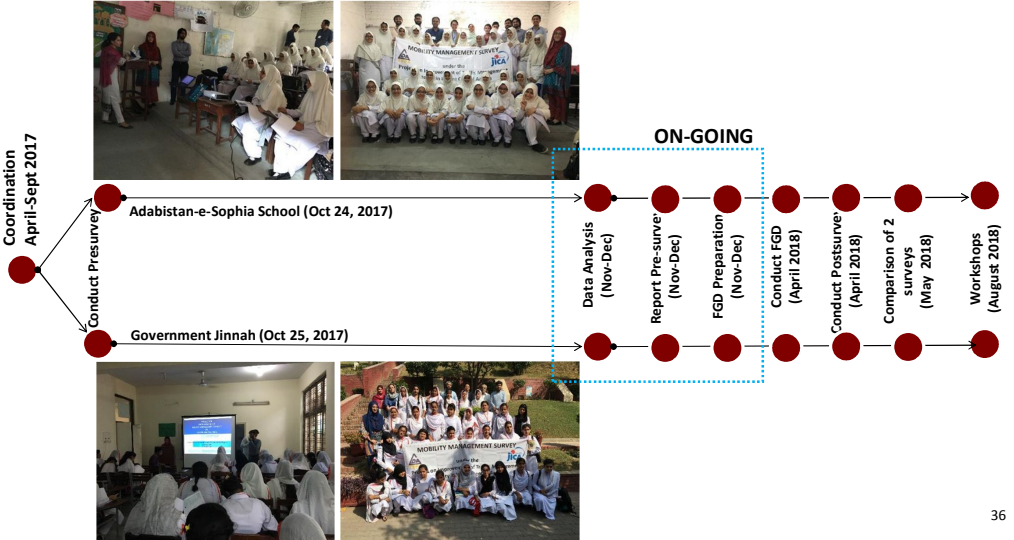
“Mobility Management (MM) is a concept which promotes the use of sustainable transport (like walking for short trips, use of public transport) by changing travelers' attitudes and behavior. The ultimate goal is to create a new mobility culture.”



But to realize the above, we have to give them the right environment (unobstructed pedestrian space, safe environment, etc.). The Pilot Project (Queen’s Road) is planned to be such a place.

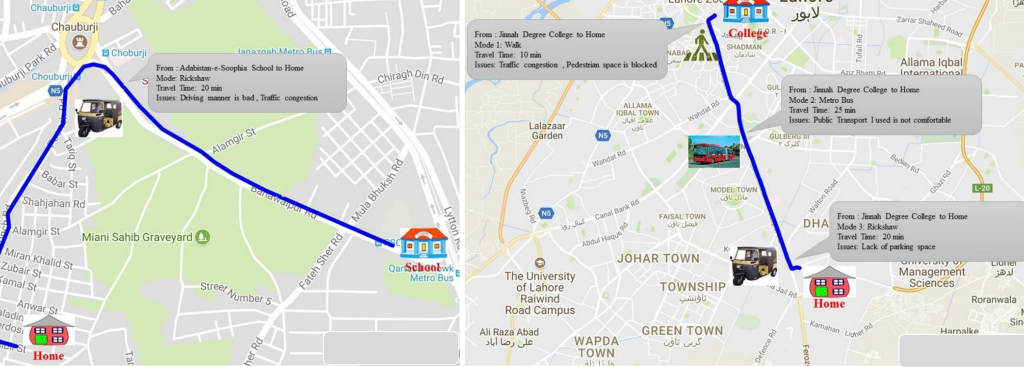


### 8. Current Status of Mobility Management (2)



### 8. Current Status of Mobility Management (3)

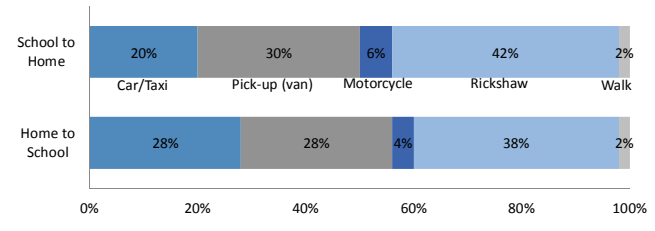
Example output of Mobility Management (Routes to school and to home of students and mode of transport)



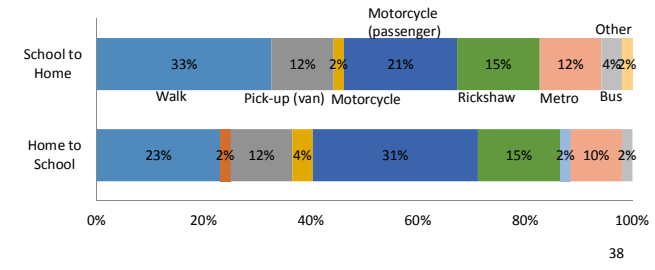
**(Adabistan-e-Sophia School)**  
 All students of Adabistan used single mode (no transfer). This is obviously due to security/safety concerns since they are still too young to navigate the transport system of Lahore (10-12 yrs. Old)  
 At Government Jinnah, use of multiple-mode of transport was observed (16-20 yrs old). 37

### 8. Current Status of Mobility Management (4)

So how the students of Adabistan go to school and come home? Majority by pick-up and rickshaw

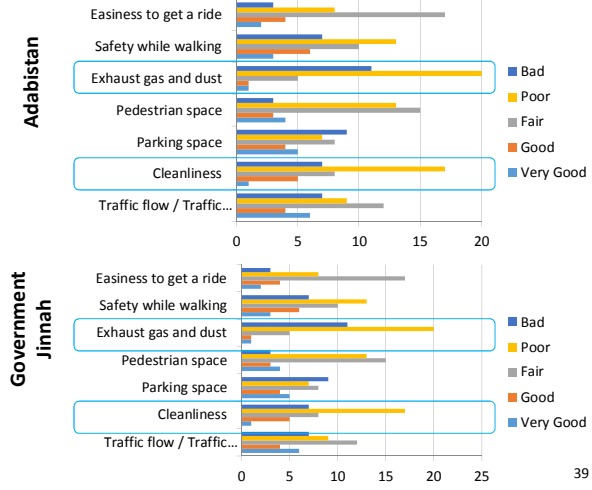


How about the students of Government Jinnah? Majority by motorcycle and walk



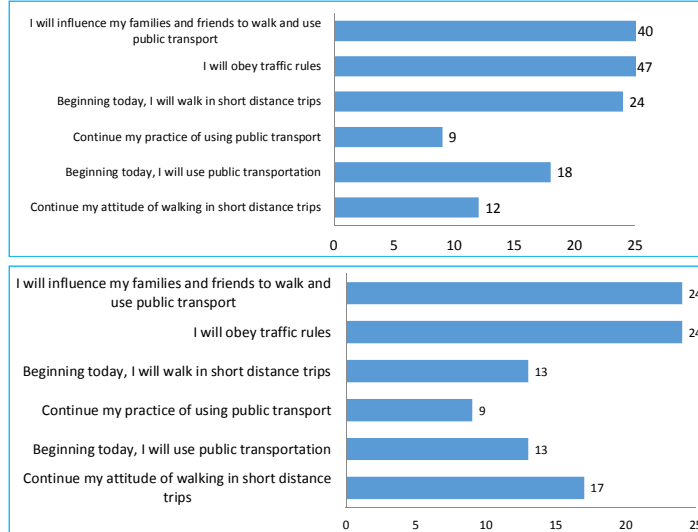
### 8. Current Status of Mobility Management (5)

How's Queens Road from the eyes of the students? It seems both schools have high concerns on (i) Exhaust gas and (ii) cleanliness of the corridor.



### 8. Current Status of Mobility Management (6)

What the students will do to contribute in improving transportation system of the city? Most of them would try to influence their family and friends to walk (for short distances) and use public transportation. Likewise, majority would obey traffic rules.





### 8. Current Status of Traffic Safety Campaign (1)

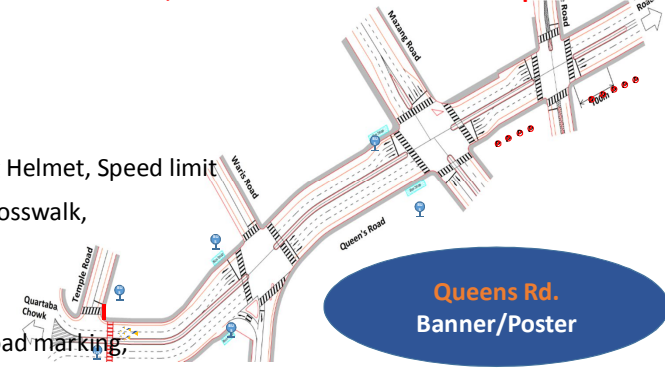
Traffic safety campaign is to be carried out for the whole of Lahore and Queens Road users.

Basic catchphrase(Whole Lahore): **“Safe and Smooth City”**

Queens Road catchphrase: **“-Queens Road- Safe, Smooth and Smart Urban Transport Corridor”**

**Whole Lahore**  
TV spot/web/  
SNS/Banner

- ✓ To Young M/C Rider : Wearing Helmet, Speed limit
- ✓ To Pedestrian : To cross the crosswalk, Follow the pedestrian signal, Walk on the sidewalk
- ✓ To Car Driver : Follow the traffic signal and road marking, Not illegal parking, Fasten seat belts



To achieve the above, the collaborative efforts of the 41 Lahore Traffic Police Department are strongly requested.

### 8. Current Status of Traffic Safety Campaign (2)

#### Campaign Tools

1. TV Broadcasting: Channel City 42, 14 days
2. Radio Broadcasting: FM103LHR, 14 days, 9 rimes a day
3. Newspaper Ad.: Daily Nawa-E-WAQT and Daily Dawn, Color half page, 4 days
4. Streamer: Install Center Median along Queens Road, Size: 5\*2
5. Poster: Schools, shops along Queens Road, Size: A1
6. Campaign Logo
7. T-shirt and Cap
8. Website/SNS: Home page, Facebook, Tweeter, You tube

### 8. Current Status of Traffic Safety Campaign (3)

Image of Traffic Safety Campaign Tool (1)

Traffic Safety Campaign Logo



### 8. Current Status of Traffic Safety Campaign (4)

#### Image of Traffic Safety Campaign Tool (2)

Newspaper Ad

Streamers

## 8. Current Status of Traffic Safety Campaign (5)

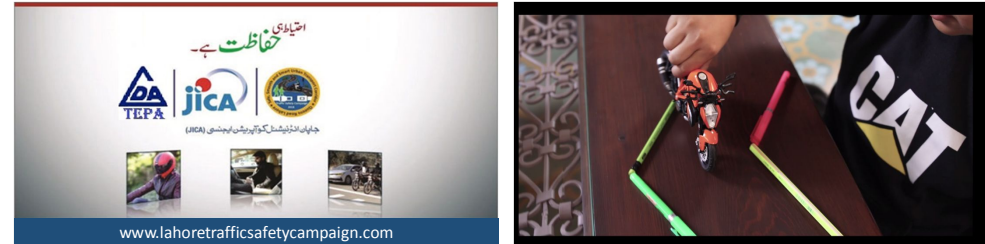
### Image of Traffic Safety Campaign Tool (3)



45

## 8. Current Status of Traffic Safety Campaign (6)

### Image of Traffic Safety Campaign Tool (4) [Video Image](#)



JICA 30sec.mp4

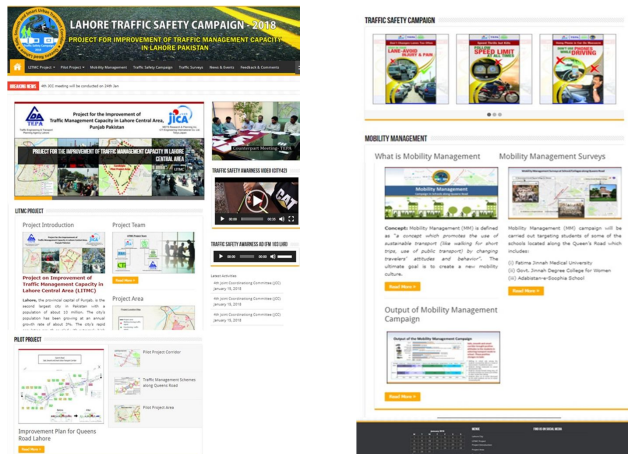
46

## 8. Current Status of Traffic Safety Campaign (7)

### Image of Traffic Safety Campaign Tool (5)

Website link:

[www.lahorettrafficsafetycampaign.com](http://www.lahorettrafficsafetycampaign.com)



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## 9. Traffic Enforcement by Traffic Police Officers

### Enforcement Items

1. Violation of traffic signal, road marking, parking and crossing pedestrians
2. Guidance to the pedestrians of safe road crossing
3. Fine to the traffic violator such as no helmet, speeding and illegal parking
4. Guidance to the car drivers looking for the parking space

Locations of Enforcement are at intersection, at bus stop, at pedestrian crossing and near on-street parking slots.

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## 10. Traffic Simulation

- VISSIM Basic Training Program by PTV
- 5 days training from 18<sup>th</sup> to 22<sup>nd</sup> Sep, 2017
- About 20 trainees attended from TEPA and related agencies

( After Training)

- Pilot Project Evaluation (Queen Road Improvement)
- Qurtaba Chowk Improvement Evaluation
- Evaluation for Signal Free vs. Signalized Intersection





the mind of movement

TRAINING  
PTV VISSIM - BASIC COURSE - 107A

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**PTV VISSIM**  
BASIC COURSE FOR TEPA

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VisSim introduction course from September 18th to September 22

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**SHORT DESCRIPTION**

First two days of VisSim introduction course, you will learn the basic functionality of VisSim. At the end of first two days, you will be able to independently build basic network models and perform various evaluations. In addition, you or your staff will learn how to conduct high quality and efficient traffic studies using the microscopic simulation software, VisSim. In Day 3 training, you will perform a practical example to reinforce your learnings during previous training days. At the end of this session, you will be able to model your own network in a detailed way. Day 4 and 5 will be complementary for the previous days. During this training you will learn how to adapt driver aggressive behavior for mixed Traffic, evaluations and presentation in a more detailed way and how to link VisSim to Vissim and Visum.

**Duration: 5 DAYS**

**CONTENTS**

- Day 1:
  - Understanding the basics of simulation
  - Background images and graphics
  - Developing VisSim networks
  - Vehicle volumes and routing
  - Speed control
  - Unsignalized control with conflict area
- Day 2:
  - Fixed time signal control
  - Modeling basic transit operations
  - Which evaluations are useful and can be performed efficiently?
  - Creating JD animation and video
- Day 3:
  - Modeling examples of Signal Control, unsignalized junctions, routes and demand.
- Day 4:
  - Adapting Driver Aggressive Behavior for Mixed Traffic
  - Evaluations and Presentation
  - Link to PTV Visum (importing models)
- Day 5:
  - Questions from the participants from a days training sessions, practice with a quick look into advance topics like Dynamic Assignment, VAP etc.

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**Training Program**

## 11. Schedule of the LITMC

Items	2017			2018										
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	
Ramadan/School Vacation									Ramadan	School Vacation				
JCC				24 Jan. ●	4th JCC						● 5th JCC			● 6th JCC
W/G				19 Jan. ○	4th WG						○ 5th WG			○ 6th WG
Seminar										◇				◇
Detailed Design & Cost Estimates														
JICA Approval & Contract with Sub-contractors														
Coordination with relevant Agencies (Roadside facility, etc.)														
Construction, Installation and Preparation														
Traffic Safety Campaign														
Mobility management														
Conduct of Pilot Project														
Evaluation (Pre and Post Survey)														
Development of Manual, Handbook and Plan														
Training in Japan														



Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore



METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

### 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room #1, P&D Department, Lahore

Date: 25<sup>th</sup> January, 2018

Time: \_\_\_\_\_

#### Attendance List

No.	Name	Organization	Designation	Contact Number	Signature
1	Agha Waqar Javed	P&D Board	Member (PS)	[REDACTED]	
2	Saleem Sheikh	P&D	Secy. Chief (Trans)	[REDACTED]	
3	Muhammad Jamil	(HOD) & (MHE)	DS (U)	[REDACTED]	
4	Muhammad Kashif Iqbal	P&D Deptt	Asstt Chief (Trans)	[REDACTED]	
5	Muhammad Masood Wazir	Dy Dir. Dev DC-offic Lahore	Dy Dir. Dev	[REDACTED]	
6	Chiees-ud-Din	Secy RTA DC-offic	Secy RTA Traffic Engineer	[REDACTED]	
7	M. Waqar Aslam	TEPA	(Team leader TEPA)	[REDACTED]	
8	Nauman Haider	TEPA	AD (S&E)	[REDACTED]	
9	Osamu SHIRAI	JICA Team	Traffic Eng	[REDACTED]	
10	Mohammad Bilal	Transport Department	TD/SE	[REDACTED]	
11	Rai Bilal Ahmad	Traffic	CTD	[REDACTED]	
12	Nabila Ahmed	Team Leader S-Program Officer	JICA	[REDACTED]	





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## Project for Improvement of Traffic Management Capacity in Lahore



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Tokyo, Japan

### 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room #1, P&D Department, Lahore

Date: 25<sup>th</sup> January, 2018

Time: \_\_\_\_\_

#### Attendance List

No.	Name	Organization	Designation	Contact Number	Signature
13	Kazuo Ume	JICA	representative		<i>Kazuo Ume</i>
14	MAKATO KATO	JICA	Chief Consultant		<i>M. Kato</i>
15	Takabiro Hiyazaki	=	Traffic Engineer		<i>T. Hiyazaki</i>
16	M. Nadeem	PEDD	Si. All Head Chief		<i>M. Nadeem</i>
17	Kamran Mehmood Khan	JICA	Project Coordinator		<i>K. Mehmood Khan</i>
18					
19					
20					
21					
22					
23					



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## Project for Improvement of Traffic Management Capacity in Lahore



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No. CE/D(HQ)/TEPA/LDA/400

Date: 05-05-2018

1. The Secretary,  
Government of the Punjab,  
P&D Department, Lahore (Chairman JCC)
2. The Secretary,  
Government of the Punjab,  
HUD & PHE, Lahore (Member of JCC)
3. The Secretary,  
Government of the Punjab,  
Transport Department, Lahore (Member of JCC)
4. The Director General,  
Lahore Development Authority (Member of JCC)
5. The Chief Traffic Officer, Lahore (Member of JCC)
6. The Deputy Commissioner, Lahore (Member of JCC)
7. The Member Infrastructure Development  
Government of the Punjab,  
P&D Department, Lahore (Member of JCC)
8. The Chief (Transport)  
P&D Department, Lahore
9. The Representative of JICA Pakistan Office (Member of JCC)
- ✓ 10. JICA Project Consultant (Member of JCC)

Sub: Minutes of 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Please find enclosed herewith, minutes of 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting, held on 25<sup>th</sup> January, 2018 at 1030 Hrs in the Planning and Development Department, under the Chairmanship of the Secretary to Government of the Punjab, P&D Department (Chairman JCC) for "Project on Improvement of Traffic Management Capacity in Lahore Central Area", for record and further necessary action.

(Sohail Rashid)  
DIRECTOR (HQ)  
TEPA, LDA





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# Project for Improvement of Traffic Management Capacity in Lahore Central Area



METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

Subject: 4<sup>th</sup> Joint Coordinating Committee Meeting (JCC)

Date/Time: 25<sup>th</sup> January, 2018 (10:30 a.m. – 12:00 noon)

Location: Committee Room No.1, P&D Department.

CC: All JCC Members, JICA Islamabad

## Preamble

*Member (PSD), P&D Department, in chair, welcomed the participants. Meeting started with the name of Almighty Allah and thereafter, introduction by the participants.*

## Agenda Item No.1 Presentation of the Project Outline

1. **Mr. Saif-ur-Rehman, Chief Engineer, TEPA made a brief introduction of the project and project expected outcomes.**
2. Mr. Masato Koto, Chief Consultant, JICA Project Team, gave the background and basis of the project, and its objectives/expected outcomes to improve the capacity of TEPA and facilitate its traffic management in the Lahore Central area particularly Queens Road, Pilot Project Corridor. He informed the participants that the Punjab Government is shifting the transport planning priority from car friendly to car and public transport friendly based on the current public transport system development.
3. Based on these circumstances, the Pilot Project is going to take into account not only cars but also public transport, pedestrians and the urban activities along the road. Therefore, the catchphrase of the Pilot Project along Queens Road is "**Safe, Smooth and Smart Urban Transport Corridor – Queens Road**". The catchphrase is explained below:
  - ◇ **Safe** means considering the safety of all road users.
  - ◇ **Smooth** means smooth mobility not only for cars (by keeping speed limit) but also for pedestrians walking on continuous sidewalk space.
  - ◇ **Smart** means effective use of road space by car drivers, roadside shop owners/ business persons and pedestrians.
4. Thereafter, Mr. Waqar Aslam, TEPA Counterpart Team Leader provided an overview regarding the following categories of the project:
  - Implementation Plan of the Pilot Project (intersection and traffic signal improvement, on-street parking measures and pedestrian facility improvement)
  - Progress of the Pilot Project Construction.
5. Mr. Waqar Aslam briefly discussed the types of management/ structural improvement being made on the Pilot Project Corridor, which include widening of the road lane, installation of on-street parking space, installation of side-walks, installation of cross-walk, construction of bus stops and installation of imaginary humps.



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## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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Tokyo, Japan

### Preamble

6. Afterwards, Mr. Nauman Haider, Counterpart, Assistant Director (S&E), TEPA, highlighted the types survey undertaken or to be carried out for the successful implementation of this Pilot Project. He also presented the cause of action for the following aspects of independent surveys:
  - o Result of Pre-Traffic Survey
  - o Outline of Traffic Safety Campaign
  - o Result of Pre-Mobility Management Survey
7. All participants appreciated the role of Japan International Cooperation Agency (JICA) in providing technical assistance to the Government of the Punjab for the provision of effective Traffic Management Solution for the Lahore Central area.

### Agenda Item No.3 Discussion by the Participants

8. While starting discussions, Rai Ijaz Ahmad, Chief Traffic Officer, Lahore inquired about installation of zebra crossings and pelican crossings which are to be installed on the Pilot Project Corridor. He further queried about the Lahore Parking Company's readiness to charge hourly parking fees and control of flow of traffic to restricted points, which is being diverted at Plaza Cinema and Ganga Ram Junctions. He stated that without any physical restriction or barrier, it is almost impossible to control movement of traffic to the restricted turning point.
9. In response, Mr. Waqar Aslam stated that there will be six zebra crossings on the Pilot Project Corridor and only one pelican crossing will be installed at Govt. Degree College for Women (Waris Road Junction). While discussing the issue, the CTO was of the view that zebra crossings should be provided at each and every junction on the Pilot Project Corridor including a Push Button Signal (Pelican Crossing) at every point and where there is no signal available, especially in front of Hospital and Educational Institutions at the Pilot Project Corridor. The Chair also endorsed his viewpoint.
10. In response, Mr. Masato Koto stated that the Pilot Project is intended for capacity building of the Punjab Government, especially TEPA, so only one Push Button Signal will be installed at the specified location; imaginary humps will be installed on other relevant locations. These imaginary humps are quite useful (and are used all over the world) to slow down the travel speed at specific points.
11. The Chair asked about the provision for VVIP movement along the corridor at all signalized junctions.
12. Mr. Waqar Aslam informed the meeting participants that all the signals are now under operation by Punjab Safe Cities Authority (PSCA); however, PSCA and TEPA/JICA Team agreed that the signal phasing and timing can be modified depending upon the traffic conditions. Thus, modification was done for the signal at two intersections along Queens Road including banning right turning traffic at Plaza Cinema Intersection.
13. The Chair requested that all intersections along Queens Road should be open to traffic at all directions, because this road is one of the important VVIP roads.
14. The Chair queried whether there is sufficient parking space available in the Pilot Project corridor.
15. Mr. Koto and Waqar Aslam responded that there are plans to provide 50 on-street





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## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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Tokyo, Japan

### Preamble

- parking slots at various locations and 100 off-street parking spaces using private car parks since it had been observed that approx. 150 cars were parked on street during the traffic survey. There will also be 150 motorcycle parking stands along Queens Road.
16. The Chair commented that Queens Road is not a business-oriented street; therefore, it would be possible to convert it to a "strictly no parking" street and concentrate on giving priority on the pedestrian movement.
  17. The Director of Housing Department responded that there are many car dealers and electronic shops along the Queens Road; therefore, providing on-street parking spaces is one of the minimum requirements to manage this street.
  18. The Chair said that this issue is very important and many alternatives can be considered; therefore, it is recommended that the decision be made through the relevant agencies, especially, the Metropolitan Corporation of Lahore (MCL) and Lahore Parking Company (LPC).
  19. Furthermore, the Chair would like to constitute a Committee to coordinate with all relevant agencies in drawing up a proper implementation plan, thereby reducing the chances of any possible lapses/issues in the project implementation.
  20. Taking into consideration the issues that have arisen with regard the foreign training of JICA Counterpart TEPA members working on contract basis, the Chair ensured the P&D Department's full support to redress the issue of approval of nominations. He further desired that persons from all relevant agencies should be included in the list of participants for Training in Japan.
  21. Ms. Ujje, JICA Islamabad, responded that this training is part of the Project; therefore, the training attendees are only TEPA counterparts. JICA has also other types of training courses; thus, personnel of other agencies have a chance to join the Training in Japan.
  22. Thereafter, Mr. Saif-ur-Rehman, Chief Engineer, TEPA, requested the Chair to approve the proposed schedule of Pilot Project implementation and Traffic Safety Campaign.
  23. At the end, the Chair thanked all the attendees for their participation in the meeting and significant suggestions for the successful implementation of this project.

### Decisions

After detailed deliberations/discussions, the following decisions were made at the end of the meeting:

- 1) JCC unanimously agreed to proceed with the implementation schedule of the project along with initiation of traffic safety campaign. Meanwhile, the following 4 items have to be revised to finalize the plan.
  - a. Traffic signal phasing for travel at all directions to cope with the VVIP traffic.
  - b. Merging of two pedestrian crossings, i.e. in front of Ganga Ram Hospital and in front of Women Medical College.
  - c. Installing a median barrier as deterrent against crossing pedestrians for their safety. Concrete installation materials and method are considered by TEPA/JICA Team.
  - d. Decision on the on-street parking measures based on the discussion among



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## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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Tokyo, Japan

### Preamble

relevant agencies, especially, MCL and LPC.

- 2) Further, a Committee composing of the following agencies is to be constituted for successful implementation and support of the project on different issues:
  - a. Secretary HUD & PHED (Chairman)
  - b. Chief Engineer, TEPA (Secretary/Member)
  - c. Representative of City Traffic Police (Member)
  - d. Representative of Metropolitan Corporation (Member)
  - e. Representative of Lahore Parking Company (Member)
- 3) It has also been decided that JICA Project Team will seek close coordination from MCL and city traffic police, for resolution of the major traffic management problems of the city.
- 4) In conclusion, JCC basically agreed with the implemented plan of TEPA/JICA Team.

### Action by:

- a) JICA Project Team
- b) P&D Department
- c) Traffic Engineering and Transport Planning Agency
- d) House, Public Health Engineering Department
- e) City District Government and City Traffic Police Lahore

**Appendix 1: Meeting Agenda**

**Appendix 2: List of Participants (typed)**

**Appendix 3: Photos**

**Appendix 4: JCC Meeting Presentation Material**





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## Project for Improvement of Traffic Management Capacity in Lahore



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Tokyo, Japan

### 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room #1, P&D Department, Lahore

Date: 25<sup>th</sup> January, 2018

Time: 10:30am to 12:00pm

#### Attendance List

No	Name	Organization	Designation	Contact Number	Signature
12	Naila Almas	JICA	Sr. Program Officer		
13	Kazuho Ujie	JICA	Representative		
14	Masato Koto	JICA	Chief Consultant		
15	Takahiro Miyazaki	JICA	Traffic Engineer		
16	M.Nawaz	P&D	Sr. Assistant Secretary		
17	Kamran Khan	JICA	Project coordinator		
18	Zaib-un-Nisa	JICA	Project Secretary		



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## Project for Improvement of Traffic Management Capacity in Lahore



METS Research & Planning, INC.  
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Tokyo, Japan

### 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room #1, P&D Department, Lahore

Date: 25<sup>th</sup> January, 2018

Time: 10:30am to 12:00pm

#### Attendance List

1	Agha Waqar Javed	P&D Board	Member (PSD)	
2	Saleem Shah	P&D	Chief Transport	
3	Muazzim Jamil	Housing, Urban Development & Public Health Engineering Department	DS(V)	
4	M. Kashif Iqbal	P&D	Assistant chief ECA	
5	M. Musedaq Watto	DC Office	Deputy Director Development	
6	Ghias-ud-din	DC office	Sec.RTA	
7	M. Waqar Aslam	TEPA	Traffic Engineer	
8	Nauman Haider	TEPA	Assistant Director (S&E)	
9	Osamu Shirai	JICA	Traffic Engineer	
10	M. Bilal	Transport Department	TD & SE	
11	Rai Ejaz Ahmed	Traffic Police	CTO	





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## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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Subject: 5<sup>th</sup> and 6<sup>th</sup> Joint Coordinating Committee Meeting (JCC)  
Date/Time: Tuesday, 26<sup>th</sup> February 2019 (11:00 – 12:30 Hrs.)  
Location: 1<sup>st</sup> Committee Room, P&D, Lahore.  
CC: All JCC Members, JICA Pakistan

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Description
<ul style="list-style-type: none"><li><b><i>Dr. Abid Bodla, Director Headquarters, P&amp;D (on behalf of Secretary of P&amp;D, Chairman of the Joint Coordinating Committee) chaired the meeting. He welcomed &amp; apprised the participants of the project outlook.</i></b></li></ul>
<b>Briefing by Mr. Masato Koto, Chief Consultant, JICA LITMC Project Team</b>
<ol style="list-style-type: none"><li>Mr. Masato Koto presented a brief outline of the project, overall schedule and the purpose of the LITMC Project. In essence, the following were the expected outputs:<ol style="list-style-type: none"><li>Capacity development for traffic management of TEPA and related organizations is conducted through training and counterpart meeting.</li><li>Institutional and personal capacity for traffic management of TEPA is enhanced mainly through implementation of Pilot Project.</li><li>Pilot Project are summarized into “Handbook” to be shared among TEPA and related organizations as a reference for other areas improvement.</li><li>Traffic Management Plan is developed together with Intersection Design Manual.</li></ol></li><li>Mr. Koto explained that the Project, which was originally supposed to end in 2018, was extended to March 2019 due to the National Election of Pakistan and contractor’s problems of the Pilot Project construction.</li></ol>
<b>Presentation by Mr. Waqar Aslam, TEPA Team Leader for LITMC Project</b>
<ol style="list-style-type: none"><li>Mr. Waqar Aslam, Team Leader of the counterpart gave a detailed synopsis of all the major activities carried out under LITMC Project like (1) Corridor Management along Queens Road, (2) Mobility Management, (3) Traffic Safety Campaign, (4) Evaluation of the Pilot Project based on the analysis of Pre &amp; Post Traffic Surveys, (5) Lesson learned from the Pilot Project implementation and (6) Traffic simulation.</li><li>He explained in detail the major improvements done along the Pilot Project Corridor “Queens Road”, which includes intersection and traffic signal</li></ol>



Traffic Engineering &  
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## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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### Description

- improvement, on-street parking measures, bus stop improvement and pedestrian sidewalk & crosswalk facility improvement.
3. He shared that the catchphrase of the Pilot Project along Queens Road is “Safe, Smooth and Smart Urban Transport Corridor – Queens Road”.
    - Safe means considering the safety of all road users.
    - Smooth means smooth mobility not only for cars (by maintaining speed limit) but also for pedestrians walking on continuous sidewalk spaces.
    - Smart means effective use of road space by car drivers, roadside shop owners/ business persons and pedestrians.
  4. He further highlighted that in order to promote the use of sustainable transport modes (like walking for short trips, use of public transport) and to create a new mobility culture, the LITMC Project team introduced the Mobility Management approach among all the educational institutions located along Queens Road.
  5. He further emphasized that to get the full benefit of mobility management, the right environment should be provided (unobstructed pedestrian space, safe environment, etc.). The Pilot Project Corridor (Queens Road) is now depicting the mobility management plan.
  6. To check the change in the traveler’s behavior along Queens Road he shared the comparison of survey data which was collected before and after the improvement of Queens Road under the Mobility Management Campaign.
  7. He further added that the LITMC Project Team conducted a precise Traffic Safety Campaign in association with allied enforcement agencies including TV spots, radio, newspaper, Website/Social media, a streamer along Queens Road and posters, Traffic Safety Guidance through traffic safety seminar and traffic rules enforcement by traffic police.
  8. Mr. Waqar shared the lessons learned from the LITMC Project and also highlighted the current issues and how these issues can be resolved by involving all the related agencies.

The issues were as follows: (1) there’s not enough information and enforcement of the on-street parking, (2) the Pelican signal was not working well because many drivers only recognized traffic signals installed at the intersection, not at road section and (3) painted sidewalk was not well recognized by the pedestrian.
  9. Mr. Waqar further expressed that TEPA and representatives from related agencies were given a one-week training of VISSIM simulation. Mr. Waqar



Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore Central Area



METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

<b>Description</b>
<p>presented the evaluation of three different cases proposed by TEPA counterparts and the JICA Project team:</p> <ol style="list-style-type: none"> <li>a. Mall Road Coordinated Traffic Signal</li> <li>b. Qartaba Chowk Improvement</li> <li>c. Queens Road Pilot Project Corridor</li> </ol>
<b>Presentation by Mr. Masato Koto, Chief Consultant, JICA LITMC Project Team</b>
<ol style="list-style-type: none"> <li>1. Mr. Koto gave a briefing on the Capacity Development of TEPA counterpart members.</li> <li>2. He explained that the process for Capacity Development of TEPA counterpart members was evaluated based on three factors, namely, (1) Technical capacity, (2) Core capacity and (3) Enabling environment.</li> <li>3. Basically, there was an improvement of all factors especially (1) Technical capacity, which improved from 1.77 to 3.43 due to the constant trainings such as 125 times counterpart meetings.</li> </ol>
<ol style="list-style-type: none"> <li>4. Mr. Koto shared that based on the experience of the LITMC Project, the Project Team prepared the following three handbooks, which will serve as reference guides for TEPA and related organizations in conducting other area improvement projects: <ol style="list-style-type: none"> <li>a. Intersection Design Manual</li> <li>b. Pilot Project Handbook</li> <li>c. Traffic Management Plan</li> </ol> </li> <li>5. Mr. Koto explained the project purposes, namely: (1) to develop the capacity of TEPA to formulate and implement countermeasures for traffic management and (2) to enhance the knowledge of related organizations on traffic management. These purposes were successfully attained based on the following: <ol style="list-style-type: none"> <li>(1) TEPA's capacity development was enhanced by the numerous counterpart meetings (125 times) and seminars (4 times), etc.</li> <li>(2) Institutional and personal capacity of TEPA was enhanced through implementation of the Pilot Project.</li> <li>(3) The Pilot Project were summarized into a "Pilot Project Handbook" together with "Intersection Design Manual" to be used by TEPA and related organizations as reference guides for other area development projects.</li> <li>(4) A "Traffic Management Plan" including Pedestrian Facility Improvement Plan and Traffic Demand Management Plan was developed.</li> </ol> </li> </ol>





Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore Central Area



METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

<b>Description</b>
<p>6. At the conclusion of Mr. Koto's presentation, he explained the Way forward for sustainability of the Project in the following points:</p> <ol style="list-style-type: none"> <li>(1) Collaboration between stakeholders especially MCL, LePark, LTC, PSCA, Education Department and Lahore Traffic Police is essential for the sustainability of the Project and solution of the urban traffic/transport issues in Lahore.</li> <li>(2) Several future projects were proposed from counterparts and project related organizations/agencies. They are as follows:               <ol style="list-style-type: none"> <li>1) ITS master plan in Lahore from TEPA counterparts</li> <li>2) Qartaba Chowk improvement plan from TEPA/JICA Project Team</li> <li>3) Study for Comprehensive Parking System in Lahore from LePark young engineer</li> <li>4) Study for Public Transport System in Lahore from CEO of Lahore Transport Company</li> </ol> </li> </ol>
<b>Discussion by the Participants</b>
<ol style="list-style-type: none"> <li>1. Dr. Abid Bodla asked whether the on-street parking lots are as per standard, and Mr. Waqar answered that all the design is as per Pakistani standard.</li> <li>2. Dr. Bodla also asked if delays were measured during the traffic survey. Mr. Waqar gave a positive reply, adding that the causes were determined as well.</li> <li>3. Mr. Awais from Lahore District Administration expressed appreciation on the success of the project conducted by TEPA and JICA. He said that these smaller interventions had bigger impacts even comparable with the big projects NHA, etc. He also said that TEPA should move from corridor management to find out all the traffic choke points of Lahore if it wants to improve the traffic issues in the City.</li> <li>4. In response to Mr. Awais, Mr. Waqar, TEPA counterpart chief, mentioned that there are different infrastructure projects being implemented by the different agencies. But the lack of coordination between related agencies causes delay of the project, etc. and sometimes there is overlapping of areas with several agencies. He stated that TEPA is the planning/engineering agency with a limited budget. It can cope with most of all types of urban transport measures including traffic management; however, the implementing agencies are the</li> </ol>



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Government of Punjab

## Project for Improvement of Traffic Management Capacity in Lahore Central Area



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Tokyo, Japan

### Description

- others bodies such as NHA and MCL. The issue is that TEPA tackles multiple projects but it always a problem to complete the implementation.
5. Traffic Police representative highlighted that many buildings are converted into commercial use but they have no parking spaces and utilize public spaces for that.  
Schools should also urge their students not to use their own vehicles; instead, they should use school transport or public transport.
  6. MCL representative made a recommendation to JICA that institutional capacity building should not be limited to TEPA but should also involve other related agencies in the future.  
He said that there should be more public awareness campaign to make push button traffic signals effective. And the JICA team should do something before signals to reduce the speed of vehicles like using cat's eyes (TEPA/JICA already installed these devices in front of cross walk).  
He also said that there is lack of coordination among agencies. No one shares any information with each other. If one agency maintains a road, then another comes and starts digging, especially WASA and PTCL, the road is left unpaved afterwards.
  7. In response, Dr. Bodla said that there should be a coordination cell having members of all agencies sharing each other's activities.
  8. The Housing Department representative added that TEPA and WASA are under LDA, and LDA should coordinate the activities of both agencies to solve these issues.
  9. Towards the end of the meeting, Ms. Ujiie, JICA Pakistan, said that sustainability of LITMC project is very important and all related agencies should work together for this.  
She expected that TEPA should continue these successful corridor management activities and coordinate with related agencies.  
She also said that the education sector should continue the awareness seminars and mobility management activities for the generation of awareness among students for future development.  
In addition, she requested that all JCC members go over the 3 books and inform the JICA Project Team if they have comments or questions within this week.
  10. During closing remarks, Dr. Bodla said congratulations for the success of this Project.  
He added that the population of Lahore City had increased and therefore traffic congestion on roads would be more serious. A request has been



Traffic Engineering &  
Transport Planning Agency  
Government of Puniab

## Project for Improvement of Traffic Management Capacity in Lahore Central Area



METS Research & Planning, INC.  
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Tokyo, Japan

Description
made to JICA to conduct a study of city-wise transport master plan to accommodate the LDA's comprehensive urban master plan which was recently completed.  After detailed deliberations/discussions, the meeting concluded with words of gratitude to all the Joint Coordinating Committee Members.

***Appendix 1: Meeting Agenda***

***Appendix 2: List of Attendees (handwriting and typed)***

***Appendix 3: Photos***

***Appendix 4: JCC Meeting Presentation Material***



# Project for Improvement of Traffic Management Capacity in Lahore

Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

## AGENDA

### **5<sup>th</sup> & 6<sup>th</sup> combined Joint Coordination Committee (JCC) Meeting**

**Venue:** Committee Room#1, P&D Department, Lahore

**Date:** 26<sup>th</sup> February, 2019

**Time:** 11:00am to 12:30 pm

**11:00 – 11:10**

**Opening Keynotes**

**Mr. Iftikhar Ali Sahoo**, Secretary, P&D Department (in Chair)

**11:10 – 12:00**

**Presentation of the Project outline**

**Mr. Mazhar Hussain Khan**, Chief Engineer, TEPA

**Ms. Kazuho Ujiie**, JICA Pakistan

**Mr. Masato Koto**, Chief Consultant, JICA LITMC Project Team

- Brief introduction of the Project
- Evaluation of the TEPA's Capacity Development

**Muhammad Waqar Aslam (Team Leader, TEPA)/ Mr. Nauman Haider (Assistant Director S&E –TEPA)**

- Corridor Management
- Mobility Management & Traffic Safety Campaign
- Traffic Simulation using VISSM

**Mr. Masato Koto**, Chief Consultant, JICA LITMC Project Team

- Pilot Project Handbook , Intersection Design Manual and Traffic Management Plan
- Way Forward

**12:00 – 12:20**

**Discussion**

**12:20 – 12:30**

**Closing Remarks**

**Mr. Iftikhar Ali Sahoo**, Secretary, P&D Department (in Chair)

# PROJECT ON IMPROVEMENT OF TRAFFIC MANAGEMENT CAPACITY IN LAHORE CENTRAL AREA

THE GOVERNMENT OF PUNJAB  
ISLAMIC REPUBLIC OF PAKISTAN

**5<sup>th</sup> and 6<sup>th</sup> JCC Meeting**

**All About the Project**  
26<sup>th</sup> February 2019

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

METS RESEARCH & PLANNING, INC.  
CTI ENGINEERING INTERNATIONAL CO., LTD.

1

## Presentation Outline

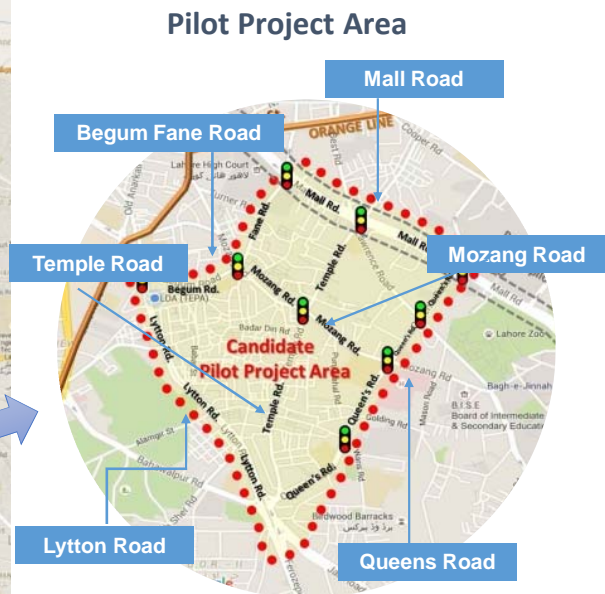
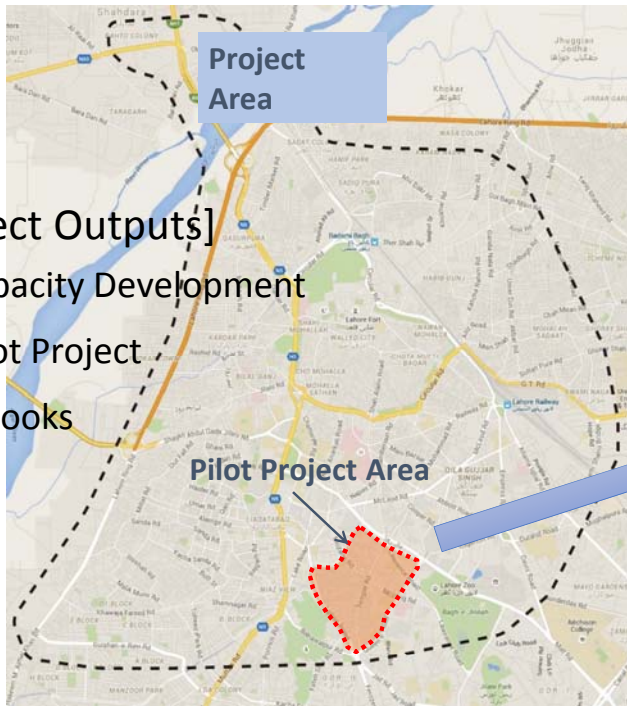
1. Outline of the Project
2. Overall Project Schedule
3. Corridor Management
4. Evaluation of Pilot Project
5. Mobility Management
6. Traffic Safety Campaign
7. Lesson Learned from Pilot Project and Current Issues & Proposed Action Plan
8. Traffic Simulation
9. Capacity Development
10. Manual, Handbook and Traffic Management Plan
11. Performance of the LITMC Project
12. Way Forward

2

# 1. Outline of the project

[Project Outputs]

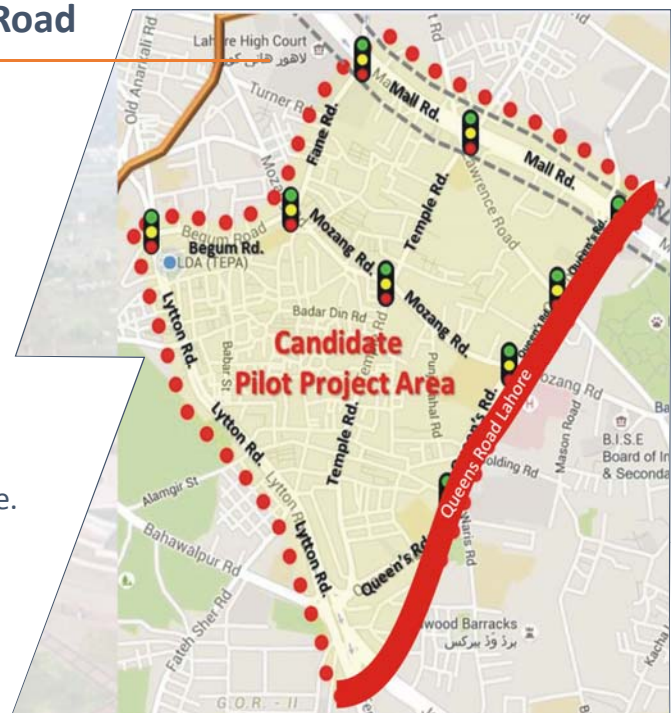
- (1) Capacity Development
- (2) Pilot Project
- (3) 3 Books



# 1. Outline of the project

## Pilot Project Corridor – Queens Road

- Queens Road is located between two of Lahore’s main radial roads – The Mall Road, Ferozepur/Lytton Road.
- It has attracted considerable investor interest in the past decade and has consequently developed as a hub of business as a hub of automobile and electronics industries.
- Hospital, educational institutes and Army Aviation center are located there.



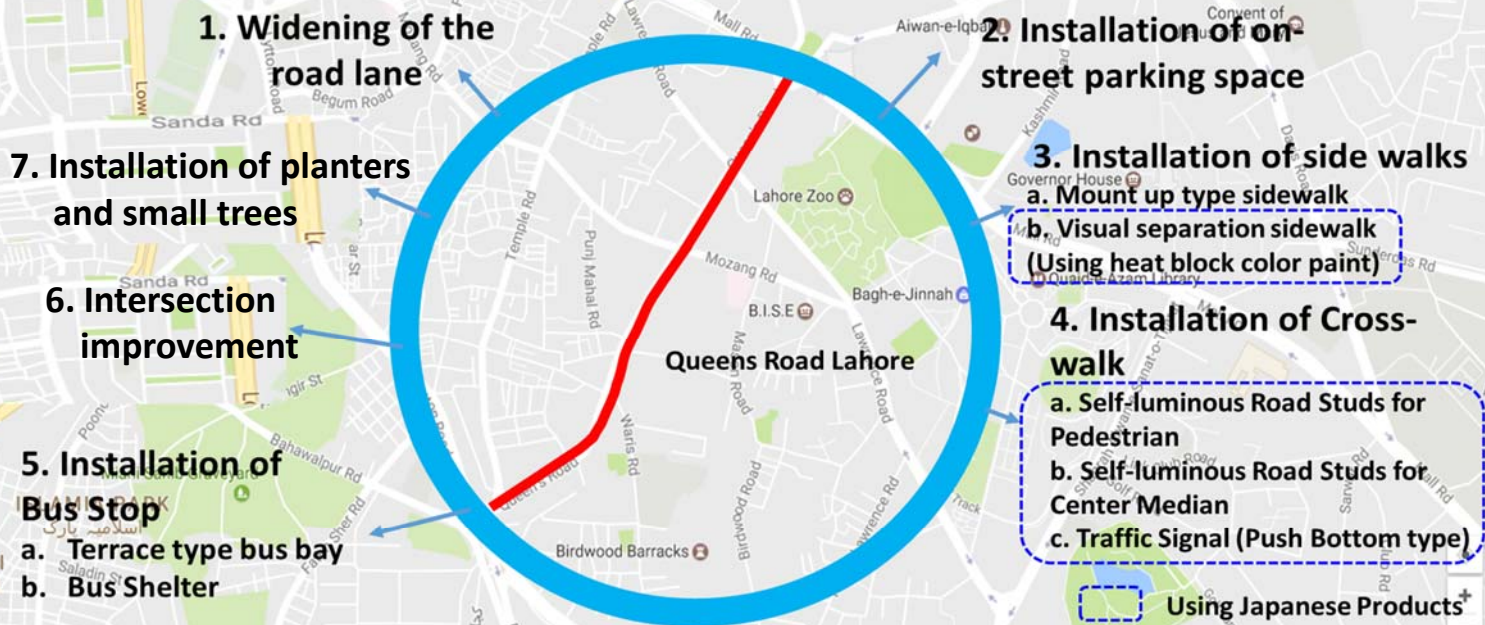


## 2. Project Schedule

Year	2016				2017				2018				2019				
Month	Feb – Mar	Apr – Jun	Jul – Sep	Oct – Dec	Jan – Mar	Apr – Jun	Jul – Sep	Oct – Dec	Jan – Mar	Apr – Jun	Jul – Sep	Oct – Dec	Jan – Mar				
<b>WORK PLAN</b>	<b>Current Situation Analysis</b>				<b>Institutional / Personal Development</b>				<b>Institutional Development</b>								
	<ul style="list-style-type: none"> <li>● (1-1) Needs Assessment of the CP members</li> <li>● (1-2) Development of Training plan</li> <li>● (2-1) Traffic condition survey</li> <li>● (2-2) Identify of traffic management issues</li> <li>● (2-7) Organizational frameworks of TEPA</li> <li>● (3-1) Review the Existing handbook and manual</li> </ul>				<ul style="list-style-type: none"> <li>● (1-3,4) Conduct training courses</li> <li>● (1-6) Conduct work shops/Seminar</li> <li>● (2-8) Preparation of institutional improvement Plan</li> </ul>				<ul style="list-style-type: none"> <li>● (2-9) Monitoring of the institutional improvement Plan</li> </ul>								
					<b>Planning for Pilot Project</b>				<b>Implementation of Pilot project</b>								
					<ul style="list-style-type: none"> <li>● (2-3) Planning of the Pilot project (Selection of pilot project area and implementation items, Design, Integration, Coordination with Relevant organization )</li> </ul>				<ul style="list-style-type: none"> <li>● (2-4) Implementation (Construction, M/M, Traffic safety Campaign)</li> <li>● (2-5) Traffic Survey</li> </ul>				<b>Analysis of Pilot Project</b>				
									<ul style="list-style-type: none"> <li>● (2-6) Traffic simulation</li> </ul>								
	<b>Development of Handbook and Manuals</b>																
	<ul style="list-style-type: none"> <li>● (3-2,3) Pilot project handbook and Intersection Design manual</li> </ul>																
	<b>Preparation of Traffic Management Plan</b>																
	<ul style="list-style-type: none"> <li>● (2-10, 4-1) Traffic Management Plan</li> </ul>																
WG			●		●		●		●		●		●				
JCC	●		●		●				●				●●				
Seminar	●		●								●		●				

## 3. Corridor Management along Queens Road

“Safe, Smooth and Smart Urban Transport Corridor – Queens Road”



In short, we are re-dressing the Queens Road to make it an attractive urban transport corridor to all Lahore citizens.

### 3. Corridor Management along Queens Road



Parking Measures



Sidewalk Improvement



Bus Stop Improvement

Pedestrian Crossing with Pelican Signal

### 3. Corridor Management along Queens Road



Queens Road view from Drone



### 3. Corridor Management along Queens Road

**Queens Road**



Car Parking, Sidewalk, 3.0m Carriageway




➔




UK Visa center      The visual separation sidewalk


**Other Road in the Lahore Central Area**




Data Darbar Road  
Pedestrian space is not clearly separated



G.T. Road  
Sidewalk used for Motorbike shop



Begum Road  
Parked vehicles blocked traffic

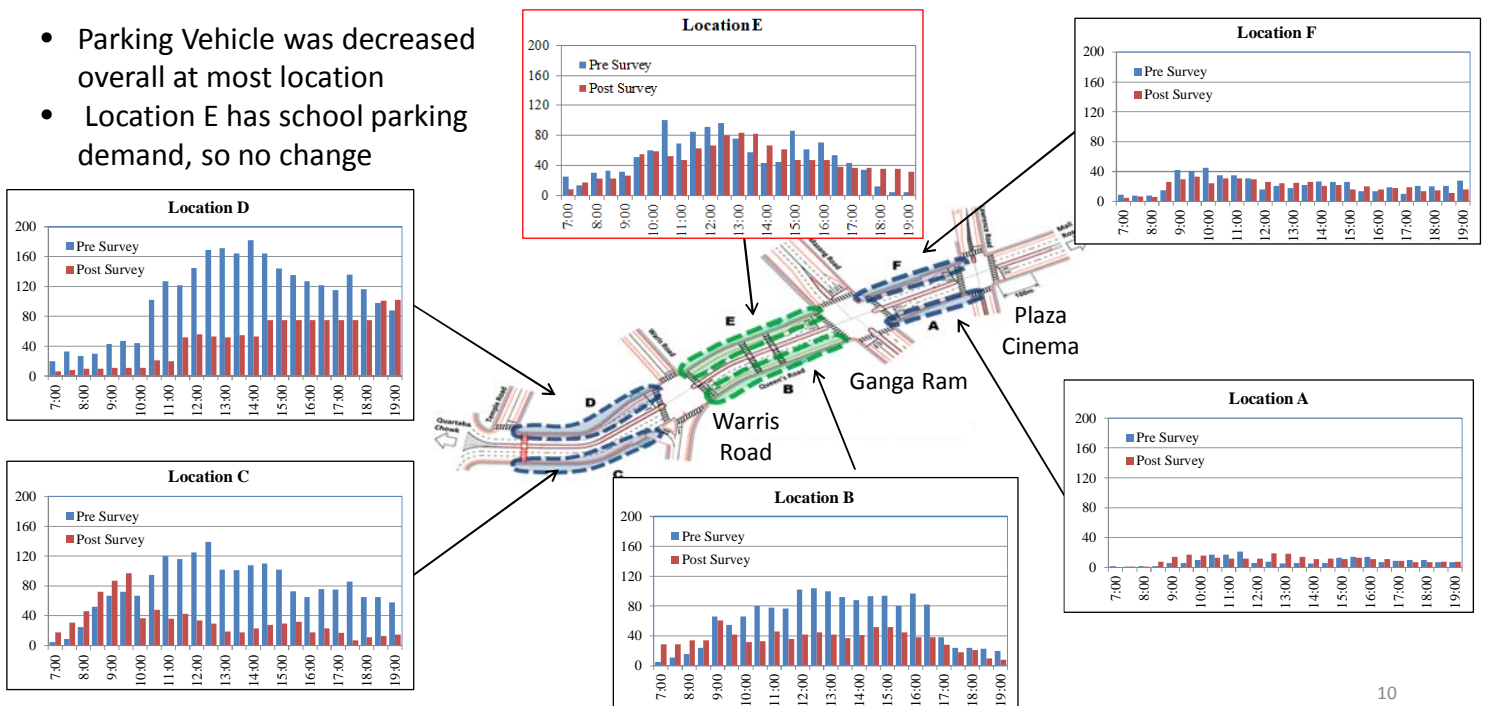


Lytton Road  
Sidewalk used for Maintenance of rickshaw

### 4. Evaluation of Pilot Project (Pre and Post Traffic Survey Result)

#### (1) On-street Parking ( Time Distribution by Location)

- Parking Vehicle was decreased overall at most location
- Location E has school parking demand, so no change





## 4. Evaluation of Pilot Project (Pre and Post Traffic Survey Result)

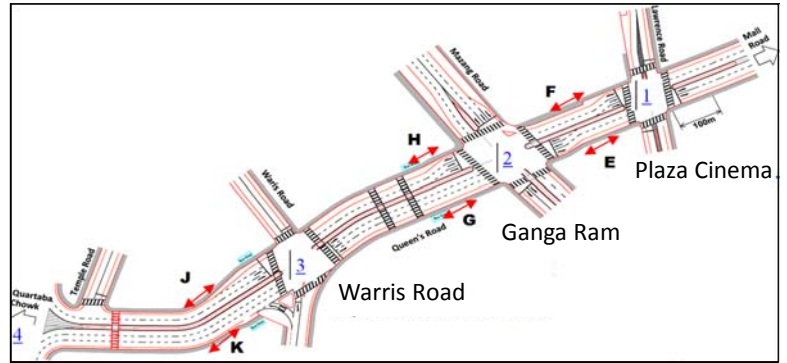
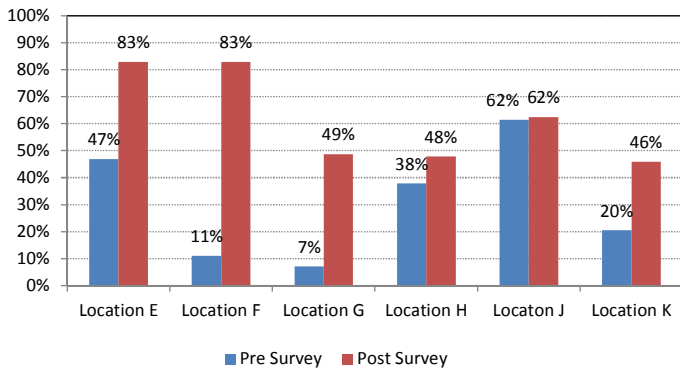
### (2) Pedestrian Traffic on Sidewalk

- Rate of within sidewalk increase at Location E, F, G, K, good impact of improvement work for sidewalk.

Maintenance rate of sidewalk

Sidewalk	West side	East side	Total
Existing sidewalk	562m	797m	1,359m (56%)
New mount-up sidewalk	498m	309m	807m (34%)
New visual separation sidewalk	140m	94m	234m (10%)
<b>Total</b>	<b>1200m</b>	<b>1,200m</b>	<b>2,400m</b>

Rate of walking on the sidewalk

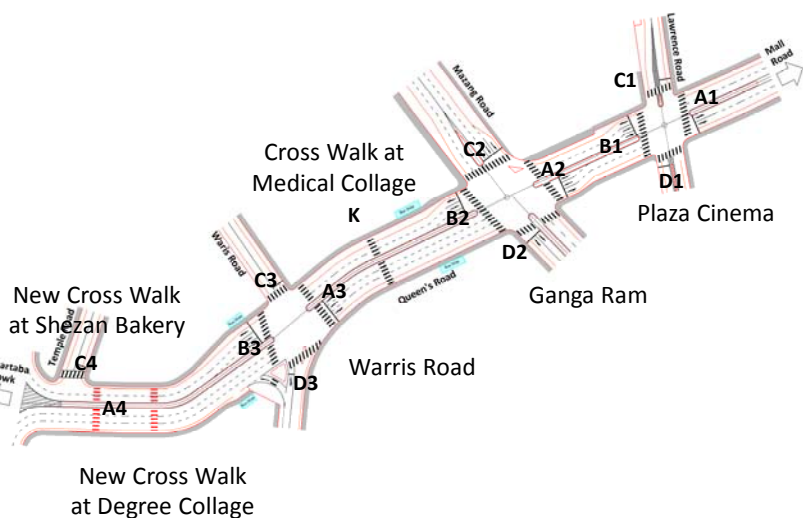
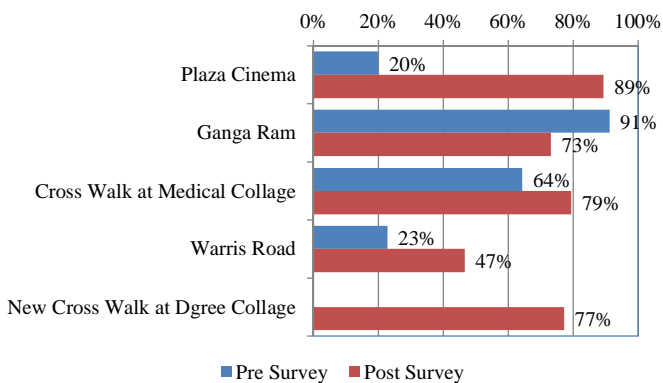


## 4. Evaluation of Pilot Project (Pre and Post Traffic Survey Result)

### (3) Pedestrian Traffic at Crossing Walk

- The rate of walking inside side walk are increased at most locations, Ganga Ram is decreased but keep high rate with 75 %
- This is the results of impact of pilot project and traffic safety campaign

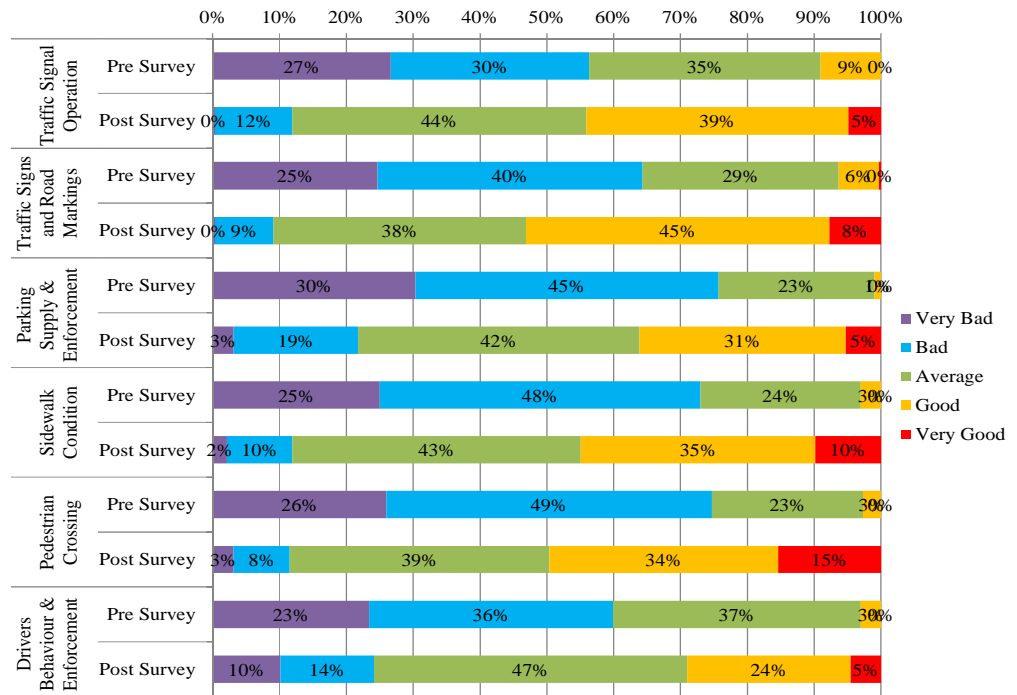
Rate of walking on the crosswalk marking



## 4. Evaluation of Pilot Project (Pre and Post Traffic Survey Result)

### (4) Interview Survey: Overall Assessments for Traffic Situation

- All items are improved
- High evaluation are Traffic signal/ Road marking with 47 points increase, Pedestrian crossing with 45 points and sidewalk with 42 points
- Points = percentage of good and very good



## 5. Mobility Management Campaign

### (1) What is Mobility Management?

“Mobility Management (MM) is a concept which promotes the use of sustainable transport (like walking for short trips, use of public transport) by changing travelers' attitudes and behavior. The ultimate goal is to create a new mobility culture.”



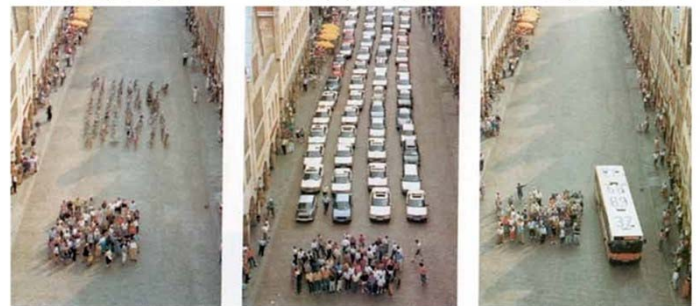
But to realize the above, we have to give them the right environment (unobstructed pedestrian space, safe environment, etc.). The Pilot Project (Queen's Road) is planned to be such a place.

### TRANSPORTING 72 PEOPLE

Bike: 72, 90 sq.m.

Car: 60, 1,000 sq.m.

Bus: 1, 30 sq.m.



## 5. Mobility Management Campaign

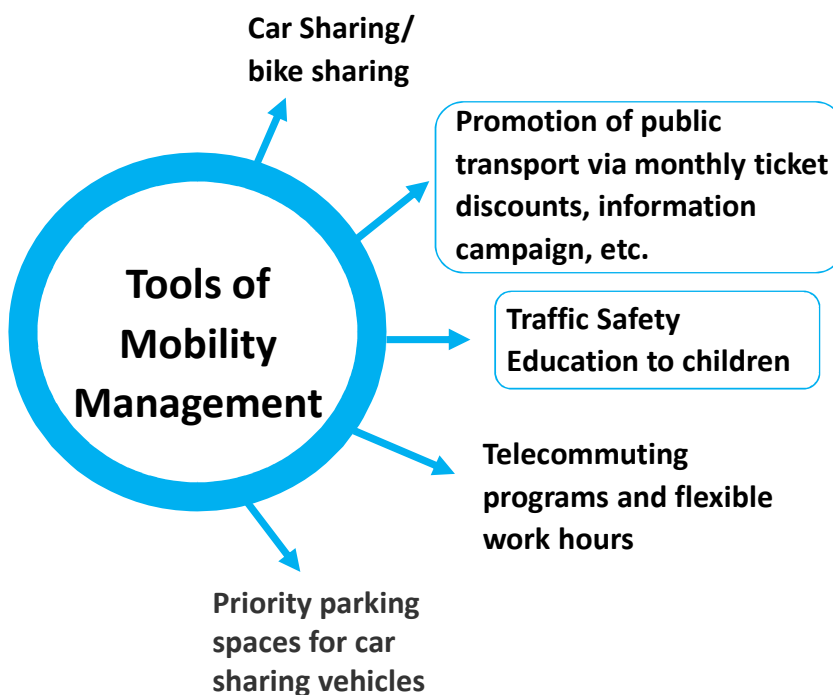
### (2) What is Mobility Management?



Public manners including respect to traffic rules is shaped at early age. Here, school children in Japan and Pakistan during their traffic safety training 15

## 5. Mobility Management Campaign

### (3) Tools of Mobility Management



For the Mobility Management Campaign under this TEPA/JICA Project, we are covering the following:

1. Classroom campaign on the importance of using public transportation, obeying traffic rules and students contribution to improve the transport system of Lahore (e.g. walking for short distances, proper parking, etc.)
2. Class room seminar for the students (with traffic police)
3. Traffic Safety Tour Campaign



## 5. Mobility Management Campaign

### (4) What we taught the students?



Traffic Police Officer, Mr. Moomaz Ali, explaining to the students the meaning of green painted pedestrian lane and other markings useful for their safety

### What we taught the students?

- Explain to them the meaning of road markings and traffic signs
- Identify safe route while walking (e.g. by observing the pedestrian lane and designated zebra crossing with push button)
- Teach them how to behave in the public space (e.g. raise your hand when crossing to increase your visibility to the driver or walking and crossing as a group will increase their visibility)
- Tell them to influence their family members who drive to follow traffic rules

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## Road Safety Tour at Queens Road | Adabistan-e-Soophia



1 Students listening to the traffic safety presentations



2 TEPA explaining the objective of the seminar



3 TEPA and Traffic Police organizing the students at Queens Road



6 Students testing their newly learned skills by raising their hand when crossing



5 Media covered the activity which enhances the program's reach



4 Traffic Police explaining the meaning of road markings and traffic signs

Adabistan

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## Selected Feedbacks from the Students



How's the Traffic Safety and Road Safety Tour, are they useful to you? Should these be continued?

Note: 2 students said not useful. Other 82 students said "useful"

Yeah, it is a very useful campaign and this should be continued to make Pakistan more safer.

Yes, but not all people are aware of this so it should be continued further to all area of Lahore

Yes, this seminar and safety campaign is very useful. This seminar gave us a lot of information about traffic laws. Please continue seminars like this, all over Pakistan.

Yes, this seminar is very useful and about safety for our children and families and this safety is most important for the students. Students were given information for this. Thank you so much for this information.

## Selected Feedbacks from the Teachers



This seminar is very useful since what children learned at early age will stay with them forever

Its a very good effort and it should be continued. Our students learn inside class room especially about traffic signs and safety but this activity brings them on road and show them practically so they learn how to follow these things in their daily life. Kids are happy to participate and they learned a lot.

This should become part of our regular school activities in Pakistan.

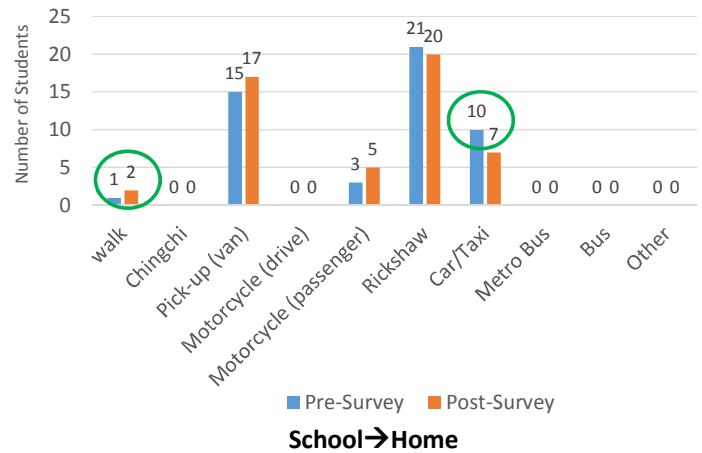
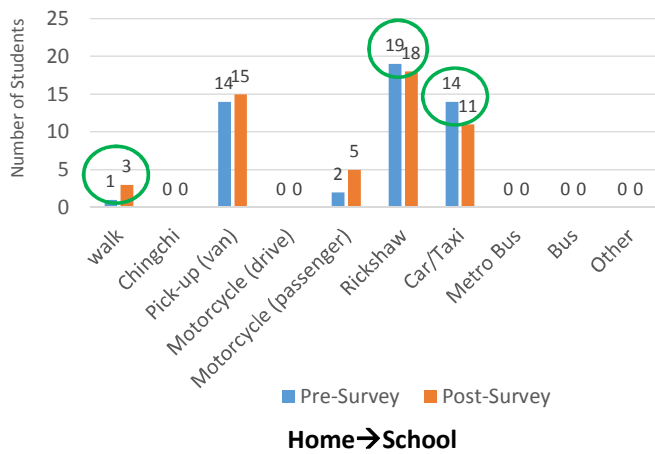
Parents should be also involved since they make decision for their kids.

Please extend this program to all-boys schools since they are the motorbike users and major source of accidents

This seminar/program should be part of our educational system.

## 5. Mobility Management Campaign

### (5) Comparison of Pre-survey and Post-survey data (Adabistan)



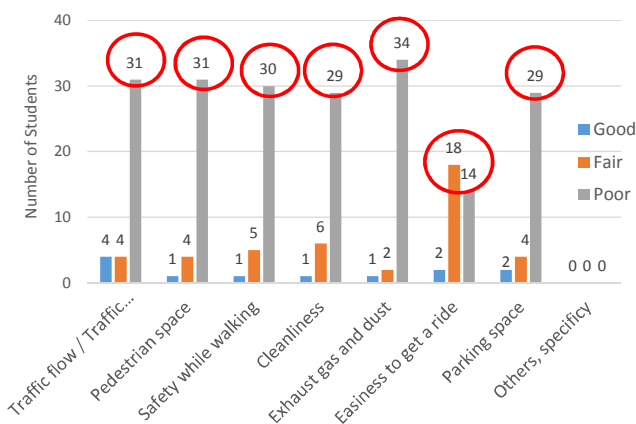
#### Observation:

- Mixed results, i.e. walk increases, use of car/taxi decreases which are both positive
- However, use of motorcycle among the students also increases

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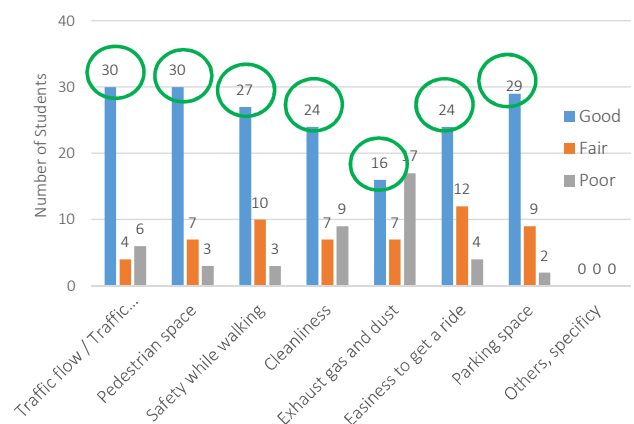
## 5. Mobility Management Campaign

### (6) Impact of Queens Road Improvement from the eyes of the students (Fatima Jinnah)



#### Queens Road Rate (Before Improvement)

Negative opinions before the improvement of Queens Road



#### Queens Road Rate (After Improvement)

Becomes positive after the improvement of Queens Road

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## 6. Traffic Safety Campaign

Aside from the physical improvement of Queens Road, Traffic Safety Campaign was conducted.

### Safety Campaign

- TV Spot Campaign
- Radio Campaign
- Newspaper Campaign
- SNS/ Website Campaign
- Streamer along Queens Road
- Campaign Poster
- T-shirt and Cap Free delivery
- Traffic safety seminar by traffic Police at Degree College Pedestrian Signal
- Traffic Enforcement by Traffic Police
- Traffic safety guidance by Traffic Police



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## 6. Traffic Safety Campaign

### (1) status and issues

The campaign in the field succeeded.

Using mass media for pinpoint traffic safety measures is a challenge.

#### • TV Spot & Radio.

30 seconds Commercial  
TV: 432 times (14days)  
Radio: 812 times (14days)

#### • Newspaper.

4 days, Every Fryday  
Down (English)

#### Nawa-e-Waqt (Urdu)

#### • T-Shirt & Cap Distribution

Number of T-Shirt and Cap: 170  
Distribution destination:  
Roadside Residents and Shopkeepers



Source: JICA TEAM.

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## 6. Traffic Safety Campaign

### (2) Implementation status and issues

- Streamers along Queens Road.  
Size:5\*2 Number of Streamers:80



- Awareness camps along Queens road each intersection



- Seminar at Fatimah Jinnah Medical College with City Traffic Police



Source: JICA TEAM.

25

## 6. Traffic Safety Campaign

### (3) Post-User Interview Survey

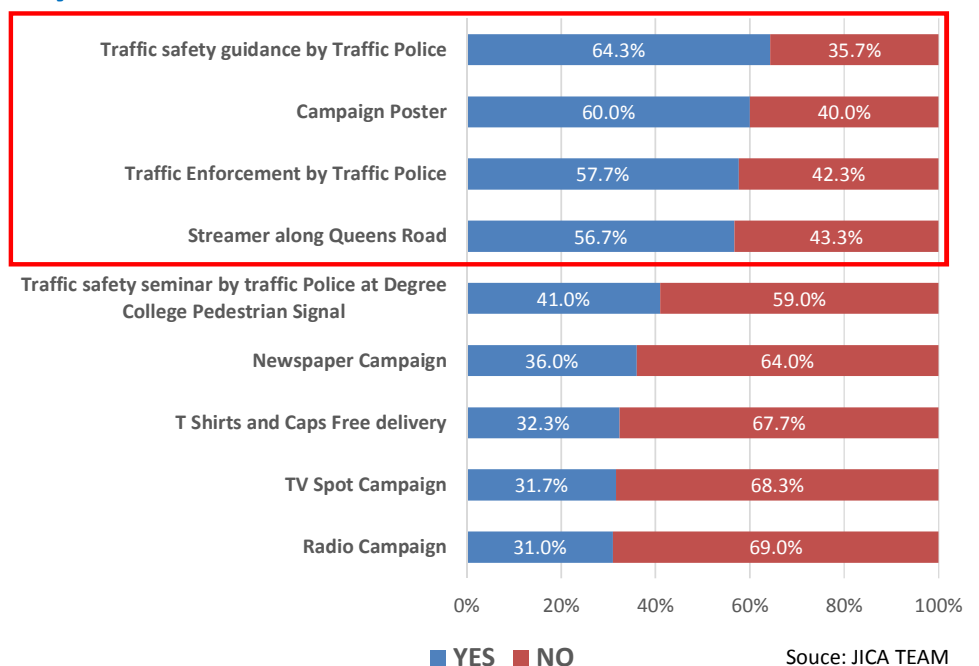
Do you know Traffic safety campaign ?

- Pedestrian 50
- Resident 50
- Car Driver 50
- Bike Driver 50
- BRT Passenger 50
- Bus Passenger 50

**Total: 300 Samples**

#### Do you know?

Traffic safety guidance, Poster, Traffic Enforcement and Streamer were recognized to a majority. They were effective.



Source: JICA TEAM

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## 7. Lessons Learned from the Pilot Project

To improve the traffic situation in Lahore Central Area, TEPA counterparts and the JICA Project Team conducted Corridor Management along Queens Road together with the Mobility Management and Traffic Safety Campaign as the Pilot Project.

This is the first experiment of the Comprehensive Traffic Management scheme's implementation in Lahore.

Before, during and after the Pilot Project, TEPA counterparts and the JICA Project Team conducted traffic surveys and received various comments from stakeholders.

The following are results of the pilot project and draft additional improvement plan for each work item. Draft additional improvement plan was made based on various comments from stakeholders.

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## 7. Lessons Learned from the Pilot Project

Improvement Works		Observed Outcome	TEPA C/P and JICA Project Team's Evaluation
Corridor Management	Widening of the road lane	• Deviation from lane of large vehicles decreased due to widening of the road lane	○
	Installation of on-street parking space for cars	• The number of parked cars on the street decreased during traffic safety campaign because of the following reasons: (i) Demarcation of on-street parking space, (ii) Parking control by traffic police	△
	On-street parking space for motorbikes	• Due to low recognition, this has not been utilized properly	△
	Mount- up Type sidewalk	• Increased number of pedestrians walking on the sidewalks is observed	○
	Visual separation sidewalk	• Visual separation sidewalks are not very effective due to: (i) Dust affects the visibility of the colored pavement surface, (ii) Lack of information signs	△
	Installation of Crosswalk, planters and small trees	• Rate of walking inside the cross walk has increased at most locations (Except for Ganga Ram Intersection).	○
	Installation of Pelican Signal	• Due to low recognition, this has not been utilized properly (No one stop even if the signal is red).	△
	Intersection Improvement	• Queue length at Ganga Ram became short due to signal coordination by PSCA. • Right turn lanes in Ganga Ram intersection has not worked well due to low recognition. • Changing the signal phase in Ganga Ram from one-direction control to both direction control has not worked well.	△
Terrace Type Bus Bay	• Increased number of buses stopping near the sidewalk is observed	○	
Mobility Management	• Awareness of the students on general transport problem of Lahore and traffic safety is greatly enhanced • Capacity of TEPA to organize such campaign is enhanced as well	○	
Traffic Safety Campaign	• The following tools found to be effective: (i) Traffic safety guidance by the Traffic Police, (ii) Campaign Poster, (iii) Traffic Enforcement, (iv) Streamer along Queens Road	○	

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## 8. Traffic Simulation

### (1) Introduction

This presentation covers VISSIM Simulation for evaluation of

1. Mall Road Coordinated Traffic Signal
2. Qartaba Chowk Improvement
3. Queens Road Pilot Project

#### What is Micro Simulation and VISSIM

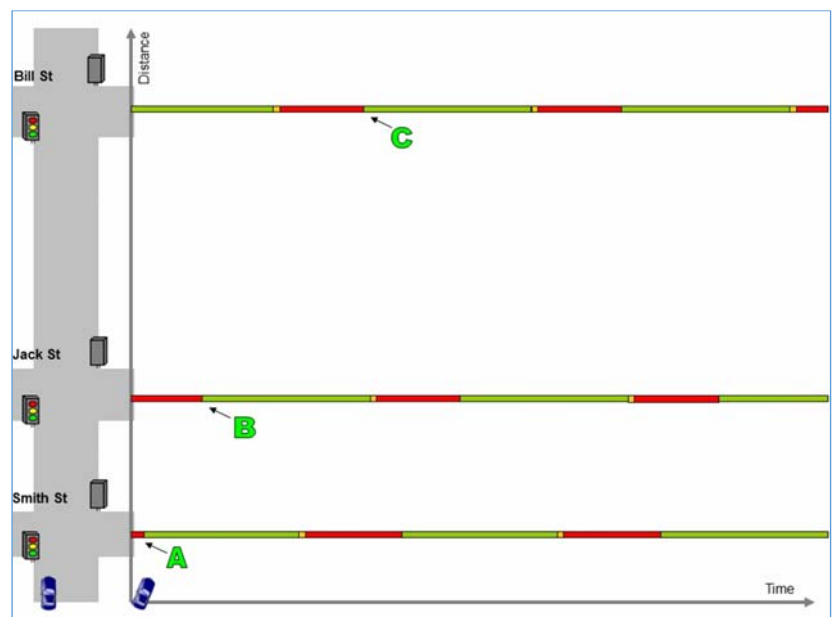
PTV VISSIM is a microscopic multi-modal traffic flow simulation software package developed by PTV Planning Transport Verkehr AG in Karlsruhe, Germany. The name is derived from "Verkehr In Städten - SIMulationsmodell" (German for "Traffic in cities - simulation model").

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## 8. Traffic Simulation

### (2) Coordinated Traffic Signal on Mall Rd

- Coordinated systems are controlled from a master controller and are set up so lights "cascade" (progress) in sequence, so platoons of vehicles can proceed through a continuous series of green lights.
- A graphical representation of phase state on a two-axis plane of distance versus time clearly shows a "green band" that has been established based on signalized intersection spacing and expected vehicle speeds.

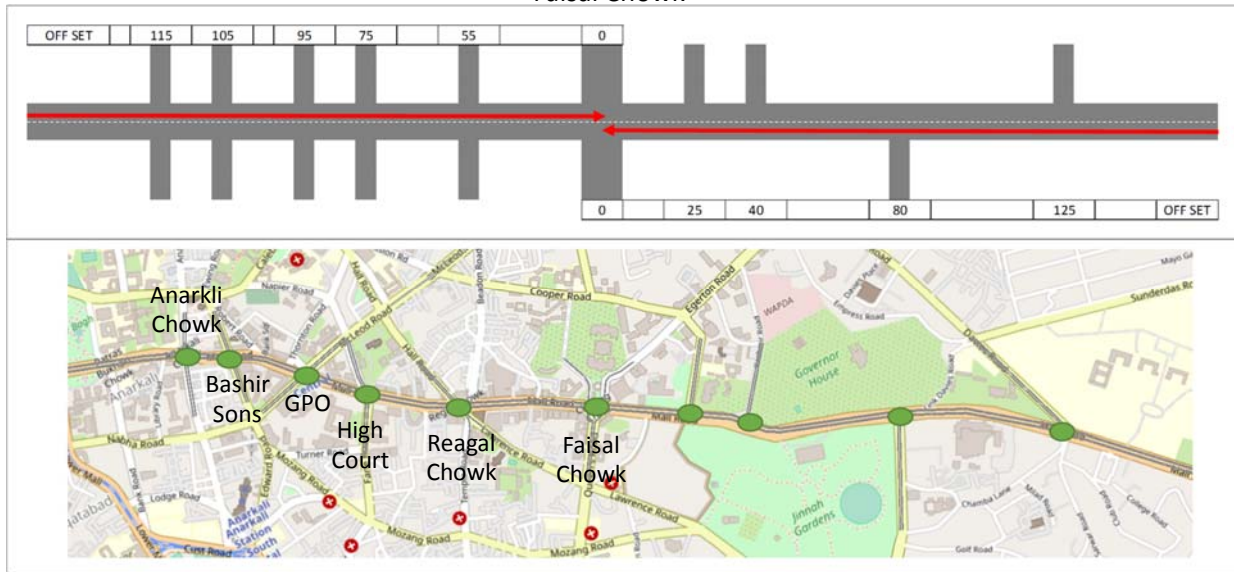


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## 8. Traffic Simulation

### 2) Off Set Plan for Mall Rd Coordinated Traffic Signal

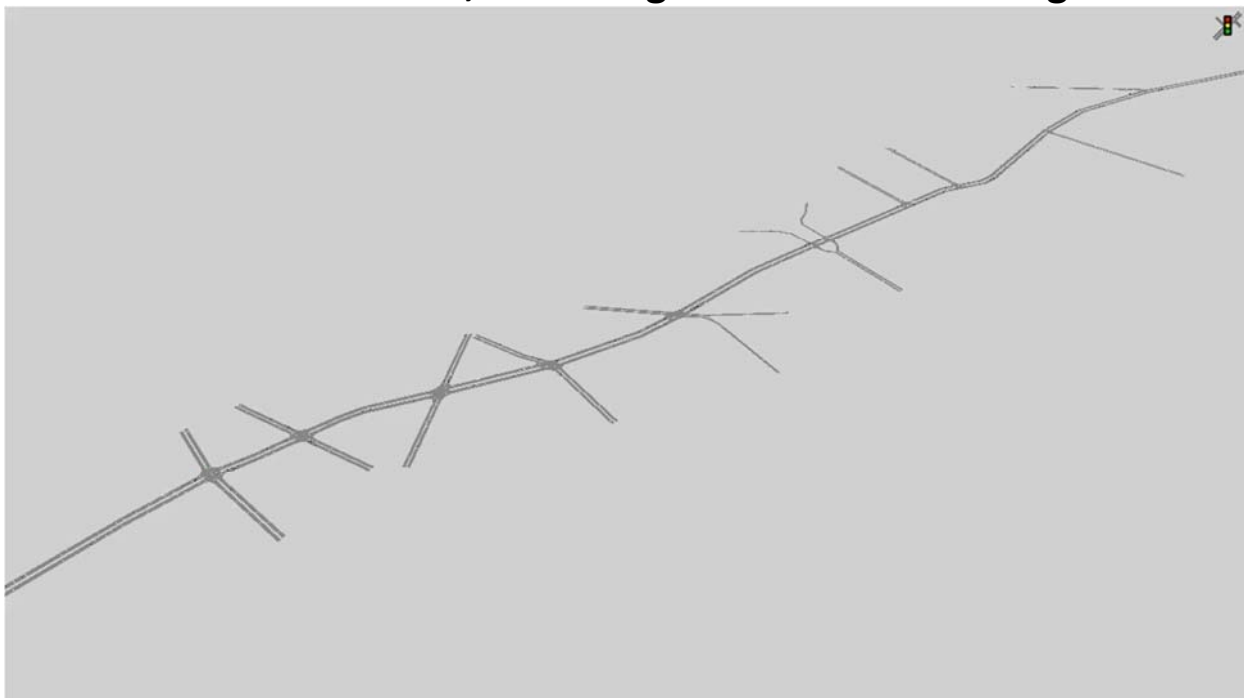
Faisal Chowk



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## 8. Traffic Simulation

### 3) VISSIM Simulation: Case 3, 2 Phasing with Coordinated Signal from West



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## 8. Traffic Simulation

### 4) Evaluation of Coordinated Traffic Signal on Mall Road

#### 1) Travel Speed

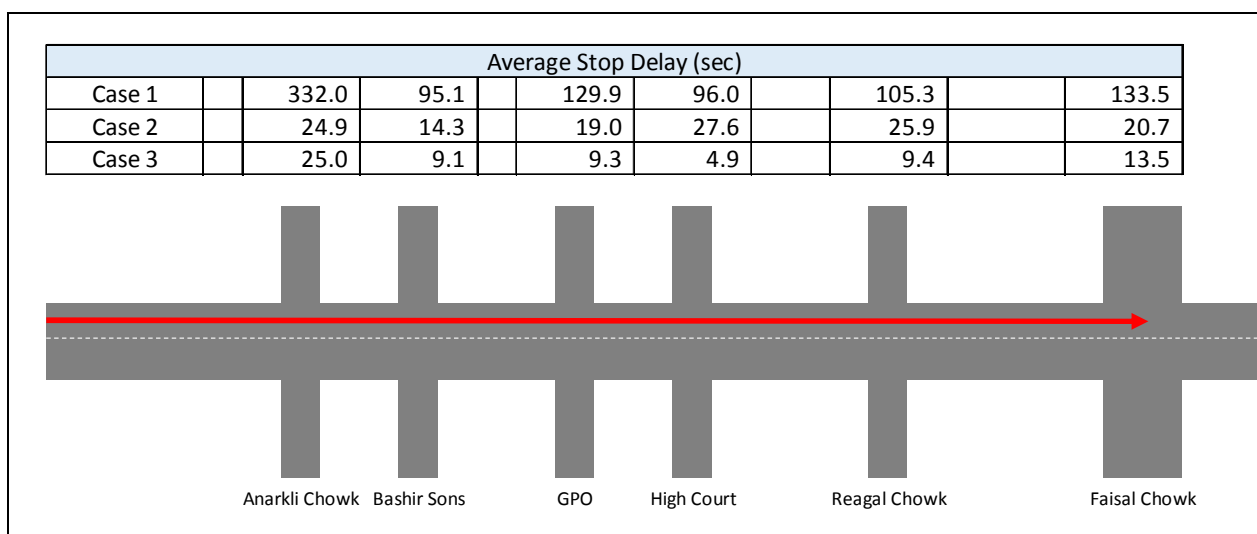


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## 8. Traffic Simulation

### 5) Evaluation of Coordinated Traffic Signal on Mall Road

#### Average Stop Delay



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## 8. Traffic Simulation

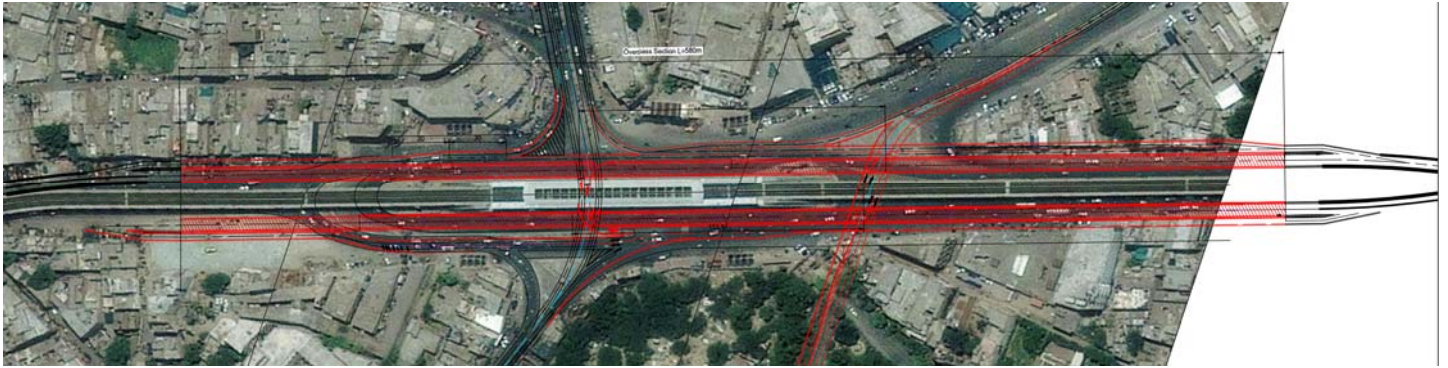
### (3) VISSIM Simulation for Qartaba Chowk

#### 1) VISSIM Simulation Case

- Case 0: Existing
- Case 1: Signal installation
- Case 2: Flyover on Lytton Rd
- Case 3: Flyover on Lytton Rd and Traffic Signal Installation

#### Assumption

- Traffic Flow is the survey data as of April 2016
- No information about queue length and delay, so no model calibration and validation, just for comparison analysis



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## 8. Traffic Simulation

### 2) i. VISSIM VIDEO Case 0: Existing



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## 8. Traffic Simulation

### 2) ii. VISSIM VIDEO Case 3: Flyover on Lytton Rd and Signal

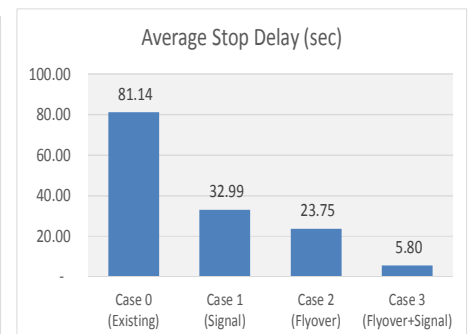
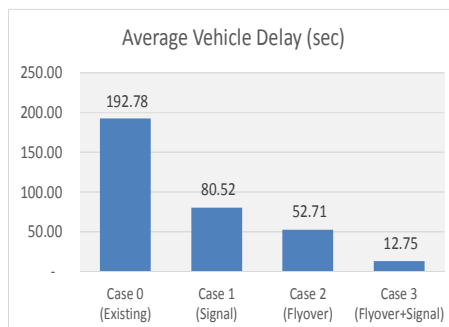
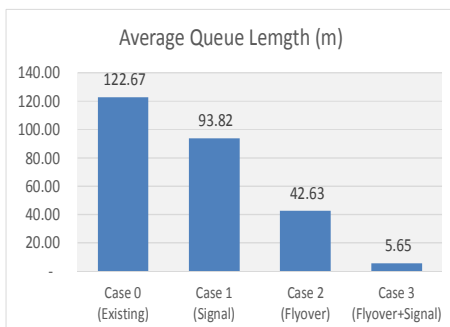


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## 8. Traffic Simulation

### 3) Evaluation of Qartaba Chowk Improvement Plan

- Evaluation indexes are Average Queue Length, Average Vehicle delay and Average Stop Delay.
- Main problem of existing situation is that weaving sections are very close to intersection between Lytton Rd and Queens Rd and weaving length is very short.
- Case1, Case2 and Case3 are improved gradually, compared with Case 0 Existing because all these countermeasures are decreasing the weaving traffic at Qartaba Chowk.



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# 8. Traffic Simulation

## 4) Queens Rd VISSIM Simulation

### i. Simulation Case and Evaluation

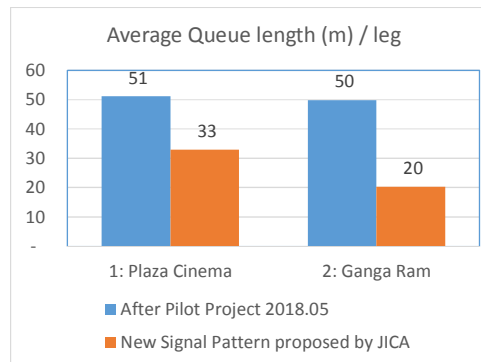
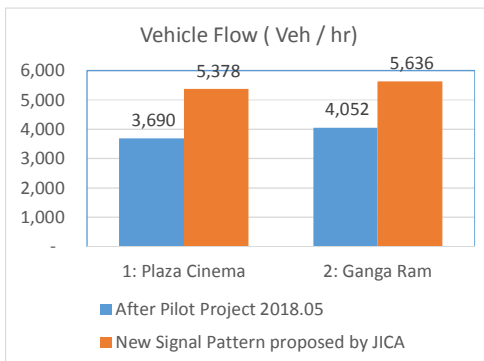
- In this simulation case, TEPA/JICA Study Team tried to modify the signal pattern of Ganga Ram and Plaza Cinema.
- Impact of the proposed New Traffic Signal Pattern is evaluated using VISSIM Simulation
- Vehicle Flows of the two intersections (Capacity of Intersection) increase by about 142 % in average and Average queue length per leg is short to 20 – 33 m (55 %) from 50 m.

### Improvement Signal Pattern proposed by JICA

Existing				Proposed			
Ganga Ram				ICA			
1	2	3	4	1	2	3	4
30 sec	35 sec	20 sec	20 sec	60 sec	15 sec	30 sec	40 sec

Existing				Proposed			
Plaza Cinema				CA			
1	2	3	4	1	2	3	4
25 sec	30 sec	20 sec	20 sec	75 sec	45 sec	45 sec	

Prohibit right turn from QueensRD.



Queue defines as the vehicle speed is below 5 km/h. 39

# 8. Capacity Development Components

## (1) Capacity Assessment Survey of TEPA CP members

### CAPACITY

#### Technical Capacity

Capabilities such as knowledge and skills (techniques) required for an individual and organization to undertake on their tasks are referred to as “technical capacity”.

#### Core Capacity

The will, attitude, leadership, and management capabilities to activate technical capacity are referred to as “core capacity” and serve as core elements for capacity.

#### Enabling Environment

Conditions that make it possible for the organization to utilize its capabilities to produce results. This includes policy frameworks, legal systems, political institutions, resources such as physical assets, capital, and social infrastructure also perceived as the enabling environment.



# 8. Capacity Development Components

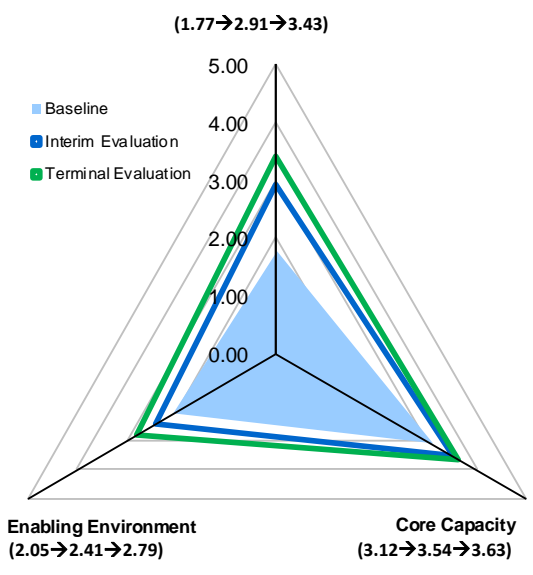
## (2) Capacity Assessment Survey of TEPA CP members

Capacity Index is established based on the range of their answers (from 1 to 5)

Item	Low	Medium	High
1. Technical Capacity	0 – 2.5	2.5 – 3.75	3.75 – 5.0
	Zero knowledge, very little	Fairly well (Good knowledge)	Very well, Perfectly
2. Core Capacity	0 – 2.5	2.5 – 3.75	3.75 – 5.0
	Negative, neutral attitude	Positive attitude	Leadership quality
3. Enabling Environment	0 – 2.5	2.5 – 3.75	3.75 – 5.0
	Uncertainty / Insufficient	→	Certainty / Sufficient

Availability of resources and level of understanding on the issues which affect institutional efficiency

## (3) Evaluation of CP Members to monitor effectiveness of the Project



**Technical Capacity:**  
**1) Baseline→Interim** = (1.77 to 2.91) Technical capacity is generally low at the beginning but registered an increase of 65% (limited knowledge to good knowledge level) during the Interim Evaluation.  
**Interim→Terminal** = (2.91→3.43) (good knowledge level is further enhanced)

**Impact of the Pilot Project**  
 During the Baseline survey, two topics where the CP counterparts were very poor were (i) Design and implementing of parking management (score=0.34 to 3.13) and (ii) Planning and implementation of pedestrian facilities (score=0.28 to 2.88). Understanding of the CPs on both topics reached “good knowledge” during the Interim Evaluation and further enhanced during Terminal Evaluation

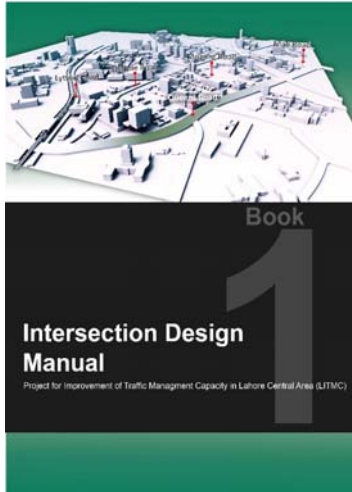
**2) Core Capacity:**  
 Score is rather high which implies that the counterparts possessed good attitude (ex. they believed they can contribute to find solution on the issue) and they have the strong will to pursue action to realize that. This level of good motivation of the TEPA counterparts at the beginning was able to maintained until now as shown by flat high score.

**3) Enabling Capacity:**  
 Average score in enabling environment is low (2.05) which underscore the recognition of limited resources (personnel, tools, budget, etc). Due to limited influence of the JICA Project Team in this aspect, observed growth is just moderate.

## 10. Manual, Handbook and Traffic Management Plan

Improvement of the planning and implementation capacity of the traffic management measures of this project is carried out through substantial facility improvement and soft components such as traffic safety campaign and mobility management.

In order to expand the project, training was also conducted for the seminar and development of manual, handbook, traffic management plan and distribute it widely to urban transport planning/implementing agencies in the Pakistan.



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## 10. Manual, Handbook and Traffic Management Plan

### (1) Intersection Design Manual

This manual is provided for the corridor management design along the Queens Road following Japanese Standard. And the contents is formed as 5 Steps as below.

#### **Procedure of Intersection Planning and Designing**

STEP1: Collect basic data for Intersection Design (Grasp the situation of road condition, traffic condition and Land use)

STEP2: Basic design of Intersection (Design of cross section, Setting of signal control method)

STEP3: Geometric structure design of intersection (Decision of design vehicle and passing method of right and left turn, Right and left turn channel, corner curb, corner cut, crosswalk and road marking design)

STEP4: Traffic handling methods (Setting of cycle and green time, Setting of saturation flow rate and calculation of Intersection demand flow rate)

STEP5: Geometric structure design of Intersection approach (Length of Right and Left turn lane, Road marking(Stop line, Cross walk, lane line, Direction arrow))

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# 10. Manual, Handbook and Traffic Management Plan

## (2) Pilot Project Handbook

This handbook is a compilation of the process of the pilot project implementation with main focus on the traffic management scheme. Since this handbook discusses the process of the implementation, the approach is more practical.

TEPA engineers should find this handbook helpful as a reference when implementing the traffic management measures to the other areas in Lahore Central Area. Transport-related agencies such as DCGL, Lahore Transport Company and other cities across Pakistan, particularly in Punjab, should also find this handbook useful.

# 10. Manual, Handbook and Traffic Management Plan

## (3) Traffic Management Plan

Generally, the traffic management implementation plan is designed in the short-term plan (mainly within 5 years) in urban transport planning. However, this Project's main theme is the Traffic Management Plan (TMP). Therefore, TMP's period, area, etc. are subdivided as shown in Table.

	Action 1 (Within 1 year)	Action 2 (3 years)	Action 3 (5 years)
	Mainly along Pilot Project Corridor	Mainly in Pilot Project Area	Lahore Central Area
	How to Sustain the Pilot Project	How to Improve the Congested Intersections and Pedestrian Facilities	How to Secure the Safe and Smooth Traffic Both Vehicular and Pedestrian
Traffic Management Plan	Improvement measures for the Pilot Project Implementation	<ul style="list-style-type: none"> <li>Improvement of Congested Intersections</li> <li>Improvement of Traffic Signal Phasing</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of Qaraba Chowk</li> <li>Coordinated Traffic Signal System along Mall Road</li> </ul>
Traffic Improvement Plan for Pedestrian	Safety measures for marking sidewalk and pedestrian signal in front of Women's University	Traffic Improvement for Pedestrians in the Pilot Project Area	Proposed Pedestrian Network in the Lahore Central Area
Traffic Demand Management Plan	How to Sustain the Mobility Management (MM) activity at 3 schools	How to Expand the MM Activity to the Whole Pakistan	

Note   Including Quantitative Analysis (Traffic Simulation)

## 11. Performance of the LITMC Project

### *Project Purpose*

- (1) TEPA will be able to formulate and implement countermeasures for traffic management.
- (2) Knowledge of related organizations on traffic management will be enhanced.

### Outputs

- (1) TEPA's capacity development was enhanced by the 125 times counterpart meetings and 4-time seminars, etc.
- (2) Institutional and personal capacity of TEPA was enhanced through implementation of Pilot Project.
- (3) Pilot Project were summarized into "Pilot Project Handbook" together with "Intersection Design Manual" to be shared among TEPA and related organizations as reference for other areas' development.
- (4) "Traffic Management Plan" including Pedestrian Facility Improvement Plan and Traffic Demand Management Plan was developed.

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## 12. Way Forward

- Sustainability of the Pilot Project  
Necessary to collaborate with MCL, PSCA, LePark, LTC, Traffic Police and Education Department (ED)
- Future Project in Collaboration with Related Agencies
  - Development Study of the Intelligent Transportation System (ITS) in Lahore ← From TEPA
  - Traffic Improvement in Lahore Central Area (Qartaba Chowk Improvement) ← From TEPA/JICA Team
  - Study for Comprehensive Parking System in Lahore ← LePark (Lahore Parking Company)
  - Study for Public Transport System in Lahore ← LTC (Lahore Transport Company)

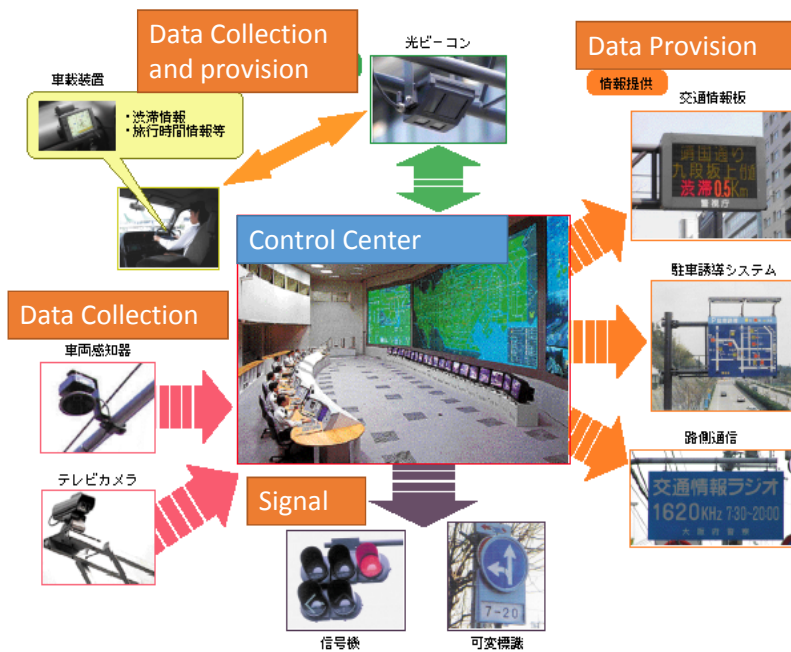
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## 12. Way Forward

- Future Project

- ⊙ The Project for Development of Intelligent Transportation System (ITS) in Lahore



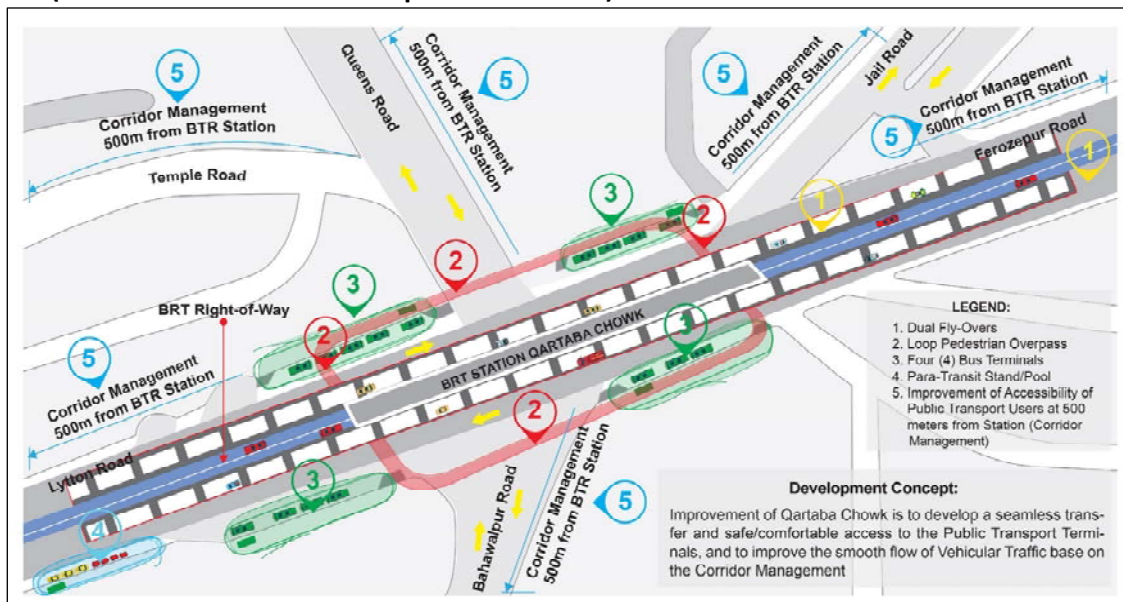
- Optimization of Traffic Signal by Traffic Control Center
- Traffic Information Collection and Provision System on real-time basis
- Monitoring the security in the city
- Traffic Control & Emergency Call Center
- Bus priority system

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## 12. Way Forward

- Future Project

- ⊙ The Project for Traffic Improvement in Lahore Central Area (Qartaba Chowk Improvement)



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**Thank you for your attention**

# Project for Improvement of Traffic Management Capacity in Lahore

Traffic Engineering &  
Transport Planning Agency  
Government of Puniab

METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

## 5<sup>th</sup> & 6<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Appendix 2

Venue: Committee Room #1, P&D Department, Lahore

Date: 26<sup>th</sup> February, 2019

Time: 11:00am to 12:45pm

### Attendance List

No.	Name	Organization	Designation	Contact Number
1	M. Kashif Iqbal	P&D	Assistant chief ECA	[REDACTED]
2	Quvat-ul-Ali Qazi	P&D Board	Planning Officer (TPT)	[REDACTED]
3	Muazzim Jamil	Housing, Urban Development & Public Health Engineering Department	DS(V)	[REDACTED]
4	Ghias-ud-din	DC office	Sec.RTA	[REDACTED]
5	Tahiu sh	MCL	DMO (HQ)	[REDACTED]
6	Mohsin Riaz	Transport Department	SO (TR-1)	[REDACTED]
7	M. Awais Malik	Disff Admin	ADC-R	[REDACTED]
8	Warda Raheem	WASA	Assistant Director (P&E)	[REDACTED]
9	Asef Sellen	Traffic Police	SP	[REDACTED]
10	Kazuho Ujie	JICA	Representative	[REDACTED]
11	Muhammad Waqar Aslam Ch	TEPA	Traffic Engineer	[REDACTED]

# Project for Improvement of Traffic Management Capacity in Lahore

Traffic Engineering &  
Transport Planning Agency  
Government of Punjab

METS Research & Planning, INC.  
CTI Engineering International Co. Ltd.  
Tokyo, Japan

## 5<sup>th</sup> & 6<sup>th</sup> Joint Coordinating Committee (JCC) Meeting

Venue: Committee Room #1, P&D Department, Lahore

Date: 26<sup>th</sup> February, 2019

Time: 11:00am to 12:45pm

### Attendance List

No.	Name	Organization	Designation	Contact Number
12	Zahid Abbas	TEPA	R.D.E	
13	Nauman Haider	TEPA	Assistant Director (S&E)	
14	Masato Koto	JICA	Chief Consultant	
15	Takahiro Miyazaki	JICA	Traffic Engineer	
16	Zaib-un-Nisa	JICA	Project Secretary	



