ITS Development in Nepal Challenges and Issues

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Presentation Outline

• Traffic management in Kathmandu (Where we are?)
• Operational Traffic lights in Kathmandu (What we are doing?)
• Proposed Traffic lights in Kathmandu
• Challenges of ITS
• Issues of ITS
• Planning for ITS (What we plan to do?)
## Traffic Data of intersection in Kathmandu

<table>
<thead>
<tr>
<th>Station</th>
<th>Date</th>
<th>AADT</th>
<th>AADT in PCU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satdobato junction</td>
<td>2018 Nov</td>
<td>44319</td>
<td>34380</td>
</tr>
<tr>
<td>Manohar bridge</td>
<td></td>
<td>113727</td>
<td>90582</td>
</tr>
<tr>
<td>Sinamangal</td>
<td></td>
<td>73738</td>
<td>65015</td>
</tr>
<tr>
<td>Gwarko east</td>
<td></td>
<td>55865</td>
<td>38289</td>
</tr>
<tr>
<td>Kalanki</td>
<td></td>
<td>31116</td>
<td>35485</td>
</tr>
<tr>
<td>Narayan Gopal chowk</td>
<td></td>
<td>91255</td>
<td>71815</td>
</tr>
<tr>
<td>Nagdhunga</td>
<td></td>
<td>12953</td>
<td>26733</td>
</tr>
<tr>
<td>Banasthali</td>
<td></td>
<td>56124</td>
<td>58512</td>
</tr>
</tbody>
</table>
Intersection improvement

• JICA carried out study in 2000
• Among 28 intersections of the Kathmandu Valley, 10 most congested intersection identified to improve by the study team:

<table>
<thead>
<tr>
<th>1) Kesharmahal</th>
<th>6) Kalanki Chowk</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Maitighar</td>
<td>7) Singha Durbar</td>
</tr>
<tr>
<td>3) Koteswor ring road</td>
<td>8) Ramsahapath, Dilli bazar</td>
</tr>
<tr>
<td>4) Koteswor Tinkune</td>
<td>9) Nayabaneswor</td>
</tr>
<tr>
<td>5) Kalimati</td>
<td>10) Padmodaya turning</td>
</tr>
</tbody>
</table>

These 10 junctions have been proposed to improve by the JICA with traffic lights and signals
Initiation for Improvement

- In F/Y 2016/17 Kathmandu Sustainable Urban Transport Project under MOPIT with the support of Asian Development Bank (ADB) carried out a program to install the Intelligent Traffic Light system in Kathmandu valley at 35 locations.
- The Design, estimate, contract documents and its evaluation was performed by international consultant.
- The operation & maintenance of the system was proposed for 5 years in the contract documents.
- Unfortunately the Contract Couldn’t be awarded due to over bidding.

ITS Locations
Traffic lights in Kathmandu

- In 2018, the Department of Roads with coordination with Kathmandu Metropolitan city maintained traffic light in 4 intersections: All Isolated type

1. Newbaneswor
2. Maharajgunj
3. Koteswor
4. Thimi
Traffic lights in Kathmandu

• Department of Roads has started to install traffic light in other more important 8 Intersections:

1. Singdarbar
2. Padmodaya mode
3. bagbazar
4. kalimati
5. Tinkune
6. Old Baneswor
7. Mitrapark
8. Gausala
CCTV Surveillance

• Surveillance cameras are installed in major junctions to help traffic operation

• More than 300 cameras fitted in major roads and junctions

• Traffic Police, Kathmandu Metropolitan City, Department of Transport management and Department of Roads working together with close coordination

• Traffic Police is suggesting to the Authorities that some cameras need to be added and some relocated
Global Positioning System

• Department of Transport Management (DoTM) is planning to implement GPS system to all public transport service vehicles
• The modalities of implementation shall be decided by the Authorities
• The program will be implemented before December 2019.
• Road accidents information management system (RA-IMS) have been established jointly by the Department and Traffic Police
Issues

• Road conditions and its geometry improvement
• River corridor improvement
• Distance between intersections
• Operation modalities of the surveillance system
• Synchronization of traffic management system
• Energy supply for the system
• Reinforced the rules and Penalty system
• Training
Challenges of ITS

• Expertise in the field of ITS.
• Financing the ITS infrastructures
• traffic flow and safety
• Capacity development of the staff
• Specifications of ITS
• Operation and maintenance modalities
• Sustainability: mix Traffic, closed intersections, road users behavior
Planning for ITS

1. Department of Roads is planning to carry out the Due Diligence review of the documents for ITS
2. Due diligence review requires international expertise
3. ITS being a challenging issue for DOR, Procurement Modality has to be decided for example Design-build and operate
4. operation and maintenance training.
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THANK YOU!