

**PREPARATION OF GUJARAT ROAD SAFETY MANAGEMENT  
STRENGTHENING TA UNDER GSHP-II:**

**FINAL REPORT ON PROPOSED POLICY AND INSTITUTIONAL  
REVIEWS**



**MARCH 6<sup>TH</sup>, 2013**

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## PREPARATION OF GUJARAT ROAD SAFETY MANAGEMENT STRENGTHENING TA UNDER GSHP-II:

### DRAFT REPORT ON PROPOSED POLICY AND INSTITUTIONAL REVIEWS

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#### 1. PURPOSE OF REPORT

This Final Report to the Project Working Group sets out:

- (1) **recommended State Policies (affecting road safety) for review** under GSHP-II with associated Terms of reference
- (2) **Terms of Reference for a formal review of existing institutional arrangements** affecting road safety which will make recommendations for preferred option(s) for a State Lead Agency role and structure and for financing mechanisms for road safety in Gujarat.
- (3) **Confirmation of some key steps** to be taken by each Agency to support a successful demonstration project
- (4) **Proposed initial technical assistance** to be provided to the Project Working Group to enable detailed support to be specified and subsequently provided for the demonstration project

An initial draft Report was considered by the Project Working Group on February 15<sup>th</sup>, 2013 and has been revised to reflect the agreed outcomes of that meeting. It is intended that this Final Report will be submitted to the Project Steering Committee for their consideration.

#### 2. PROJECT BACKGROUND AND OBJECTIVES

The World Bank's preparation of the Second Gujarat State Highway Project (GSHP-II) in association with the Roads and Building Department of the Government of Gujarat includes a road safety component.

The World Bank with the Government of Gujarat (GoG) conducted a road safety management capacity review (RSMCR) during October 2011 in order to identify what would be required to establish a robust road safety management system, within the operational framework of the GSHP-II road safety component, aimed at bringing Gujarat's challenging road safety outcomes under control.

A broad-based consensus in support of the findings and recommendations of the review and recommendations for the road safety project component was achieved in a road safety workshop in Gujarat in February 2012 and in subsequent meetings.

Agencies acknowledged the need for pragmatic next steps. They indicated their support for a road safety component which, with the help of international mentoring and national assistance, could implement best practice interventions across the sectors in identified high-risk corridors, assist with State road safety policy development priorities, and strengthen related institutional management delivery capacity across agencies.

It was agreed that the road safety project under GSHP-II was to consist of the following components:

- A fully resourced project steering committee to lead and manage components below
- Interventions across the agencies/ sectors in targeted high-risk, high-volume demonstration corridor(s)

- Conduct of a formal review of existing institutional arrangements and recommendation of preferred options for a State Lead Agency role
- Policy reviews of agreed road safety priorities, e.g. amongst topics of driver standards, heavy commercial vehicle safety, safe infrastructure design, deterrent policing and penalty frameworks and vehicle safety.

The GoG subsequently formed a Project Steering Committee, chaired by the Chief Secretary of the GoG, which held its first meeting in July 2012. Other members of the Project Steering Committee are the Principal Secretary, Roads and Buildings Department, the Commissioner of Transport and the Secretaries of Home, Urban Development and Housing, Education and Health Departments. A Project Working Group was also formed whose members represent the Project Steering Committee Departments.

The July 2012 meeting resulted in a request to R & B Department to hold separate discussions with each Department represented on the Project Steering Committee, to come up with an action plan and to report back to the Committee.

### **3. SCOPE OF WORK**

The scope of the current work consists of the following:

1. Assist the Project Steering Committee to decide on the State Policies affecting road safety to be reviewed under GSHP-II based on the relative importance, impact potential, current status and GoG ownership / support.
2. Draft TORs for T/A to review and make recommendation for improvement to the identified Policies
3. Assist the Project Steering Committee to draft a TOR for a formal review of existing institutional arrangements affecting road safety and make recommendation for preferred option(s) for a State Lead Agency role and structure and financing mechanism for road safety in Gujarat.

However, it is noted that there is also an immediate need for support for elements of the demonstration program which are yet to be put in place. This matter was also discussed in the Project Working Group meeting on February 15<sup>th</sup> and recommended ways forward are now included later in this Report and reflected in the recommended ToR's for initial technical assistance for the demonstration project set out in Appendix 5.

### **4. STATE ROAD SAFETY POLICIES - PRIORITIES FOR REVIEW**

In considering potential priority reviews of existing road safety policies in Gujarat it is necessary to bear in mind the imminent (likely) adoption of a revised version of the Motor Vehicle Act 1988 for India (as mandatory for all States) at National level. This draft legislation which has been approved by the Upper House of the National Parliament, awaits consideration by the Lower House. It is the result of the findings of the Sunder Committee and the Bill was completed and published in January 2011.

The revised legislation, if adopted, will have provide for substantial impacts upon road safety in the States of India, including Gujarat, depending upon the extent to which it is implemented to achieve active deterrence. While it will rely upon the State Government (GoG) to take further action to implement many associated detailed provisions, including State Regulations and levels of Penalties

for offences (within the ranges proscribed by the Act), the framework for driver licensing, vehicle registration, specification of illegal behaviours (offences) by road users and the range of related penalties are set out in the current Bill.

It has been suggested that the consideration of the Bill in the lower house may not take place until later in 2014 at the earliest, given the current electoral cycle.

However, it is considered prudent to assume this proposed legislation will be introduced in the next two to three years and plan for that. Therefore, a number of current policies will probably not be relevant beyond 2014.

Current State Policies which are considered most relevant to road safety are summarized in Annex 1. Many of these policies are determined by current national legislation and any future variation to that legislation and it would be problematic to review many of these areas at present.

There will be many further policy directions which India/ Gujarat will pursue in time, but the overwhelming priority task will be to make what is coming soon, work well.

It is worth repeating that while the provisions of the proposed Act will be mandatory across India, the penalties for offences will not be mandatory. (An upper bound will be provided with each State to make decisions on the level of penalties within that upper bound that will apply).

This poses some challenges as to how best to proceed.

It is the view of the adviser that we need to recognise the proposed Act is in serious prospect and that the Transport Department are making substantial system preparations for it (integrating licensing systems across the State, integrating vehicle registration systems, linking offence data systems to licensing systems) during 2013, with the intention of completion of this work by early 2014.

Other related key 'enabling' work planned or in progress jointly by Transport and Police includes the rationalisation of offences, the standardisation of offences and revised delegation of offence issuing authority to Police officers to respond to the proposed offence changes.

While the scale of the Act related system support changes that Transport is currently involved in, is very large, Transport believes that they are on track to deliver these 'enablers' and be ready to take advantage of many of the provisions in the proposed Act when it comes into effect.

The imminent national legislative changes and the very extensive electronic system upgradings currently underway by the Transport Department will provide the basis for much more effective deterrence of unsafe behaviours and improved control of access to the road system by drivers.

The development of the recommended policy review topics is shown in the Table below.

**Potential Medium term Policy Reviews placed before the Gujarat Road Safety Demonstration Project Working Group for consideration and the adopted outcomes**

Potential policy area for review - identified in RSMCR outcome, February 2012	Potential policy area for review agreed in Working Group meeting, July 2012	Key Agency	Comment by WB adviser, February 2013 <i>Relative importance, impact potential, current status and GoG ownership / support.</i>	Recommended Priorities for Policy Review from February 15 Working Group meeting discussions
Driver standards	<p><b>Focus on :</b></p> <ul style="list-style-type: none"> <li>• <b>Driver registry organization - good international practice to support current modernization activity (In progress)</b></li> <li>• <b>Registration/ certification of approved driving examiners and driver training centres</b></li> <li>• <b>Quality of driver training and license testing</b></li> </ul>	Transport	<p><i>A large systems change program is underway and is to be in place by early 2014 for Electronic licensing and vehicle registration systems/ Offence rationalisation/ Supervisory arrangements and Delegations to Police for issuing future offences and linkage of offences to license record. (High/ Very High priority, high/ very high Impact, in progress, GoG priority) In addition:</i></p> <ul style="list-style-type: none"> <li>• <i>Immediate penalty upgrade proposal for non - helmet wearing is in train between Police and Transport</i></li> <li>• <i>Penalties (hopefully at the upper end of the recommended maxima for penalties in the New Act) will need to be agreed by Government if/when the New Motor Vehicle Act is introduced</i></li> </ul> <p>(1) Future licensing options including administration issues / approaches (presentation on Australian approaches) <b>(High Priority, high impact, interest, GoG support) (Recommended Policy Review Priority)</b></p> <p>(2) Advice which could be provided to road users on safe operation e.g. using roundabouts etc ., (Provide material about eg., Australian approaches). Include capacity to develop promotional/ publicity campaigns to support relevant targeted Police enforcement activity <b>(Needed for demonstration project)</b></p>	<p><i>In Progress</i></p> <p><b>Recommended Review for future Licensing Policy: for GLS, including driver training/ experience gaining and License testing</b></p> <p><i>Advice to be obtained as part of Demonstration project activities</i></p>

			(3) Fitness checking centres – trucks (one centre – of many ultimately proposed - to open in 2013) - <b>but challenge re effectiveness if implemented in part.</b>	<i>In Progress</i>
Heavy commercial vehicle safety	<b>Combine with vehicle safety - focus on management of driving hours/ overloading to achieve international good practice levels of operating safety</b>	<b>Transport</b>	(4) Gujarat has very heavy truck flows on the national highway network in the State given its strategic location on the Delhi – Mumbai corridor. Safe truck operation is therefore an important issue for the State. However, it is an issue which needs to be addressed at national level to be fully effective. Gujarat may wish to be part of separate national efforts to tackle the issue.	<i>National initiative necessary</i>
Safe infrastructure design	<b>Agreed</b>	<b>R and B</b>	(5) Progressive review of guidelines , standards, polices for road and roadside design and operation to reflect safe system principles.  (6) Training in Road Safety for proposed <i>Road Safety Cell</i> and extension to R & B Districts in: <ul style="list-style-type: none"> <li>• Road Safety Audit</li> <li>• Black Spot Identification/ Treatment</li> <li>• Safe System application</li> <li>• Traffic engineering (physical) works (inc. work site safety)</li> <li>• Network wide crash risk assessment - iRAP Extension as part of further World Bank funded road projects</li> </ul> <b>(Very High priority, High impact, commencing, GoG interest) - Recommended policy Review priority</b>	<i>Indian Roads Congress to lead, R and B (Gujurat) to advocate early action</i>  <b>Recommended Review for future training of R and B staff re safe system approach and guidelines and IRC revised policies and standards</b>

Deterrent policing and penalty frameworks	<b>Agreed</b>	<b>Traffic Police</b>	<p>(7) Enforcement capacity development :</p> <ul style="list-style-type: none"> <li>• Strategy for enforcement: State Highway Patrol option; focus, intensity and distribution of enforcement to achieve deterrence</li> <li>• Enforcement technology advice and identification - and associated back office requirements</li> <li>• Training and development in key enforcement matters (people on top of vehicles, speed, drink driving, helmets and seatbelts, driver and rider compliance at pedestrian crossings, safe overtaking) especially in higher speed environments – for operational staff and in training college, and associated publicity campaign development and implementation capacities – in association with Transport</li> <li>• Delegated authority for issuing offences (See earlier under Transport)</li> <li>• Crash investigations/ reconstruction, training and development for selected group of officers (Phase 2)</li> </ul> <p><b>(All Very High priority, High impact, commencing, GoG interest) - Recommended Policy Review Priority</b></p> <p>(8) Crash investigations/ reconstruction, training and development for selected group of officers (Phase 1)</p> <p>(9) Knowledge support for a potential <i>Road Safety Cell</i> to be established in Police <b>(High Priority, Essential for capacity development) Recommended priority</b></p>	<p><b>Recommended Review which is to build upon initial capacity developed as part of the demonstration project</b></p> <p><i>Implement training of a specialist team as part (train during planning stages) of demonstration project</i></p> <p><i>Support as part of demonstration project</i></p>
Vehicle safety	<b>Combine with heavy vehicle safety as outlined above in 2.</b>			<i>National level action required to introduce safety standards change</i>
	<b>OTHER SUGGESTED POLICY AREAS FOR PRIORITY ACTIVITY</b>			
Crash data system		<b>ALL AGENCIES (Police and R and B to lead)</b>	<p>(10) The current crash data system is not providing as much useful data for analysis of crash risks as is desirable. Other jurisdictions are doing this and Gujarat needs to address this. Check if any other system options are under development nationally</p> <p><b>(Very High Priority, High Impact, GoG interest) - Recommended policy review priority</b></p>	<b>Recommended Review which could proceed in parallel with the demonstration project timeline.</b>

			<p><b>(11)</b> Crash data form upgrade (Police together with R&amp;B – as above for R&amp;B)  <b>(Very High priority) Short term action</b></p>	<p><i>Support as part of early planning for demonstration project</i></p>
In depth crash analysis	<p><b>In-depth analyses of a selected number of a similar fatal crash type involving multiple fatalities, (eg., truck overturning due to overloading, bus crashes) to establish common factors and establish longer term methodology to be applied to major crash type in-depth investigation.</b></p>	<p><b>ALL AGENCIES (R and B to lead)</b></p>	<p><b>(12)</b> This activity is an important potential means of building understanding of crash factors and those safe system interrelationships which could be adjusted to avoid the severity of outcome of many of these crashes.</p> <p>A research facility should be commissioned by the WG to analyse data from a number of crashes of (a suggested) two agreed crash types (heavy truck overturning and bus crashes) and document the findings and provide recommendations to the WG  <b>(Very High priority, High impact, GoG interest)</b>  <b>Recommended priority</b></p>	<p><b>Recommended Review which could proceed as a standalone project in parallel with the demonstration project timeline.</b></p>
School access safety	<p><b>Provision of lower speed zones and crossing supervisors at pedestrian crossings outside schools</b></p>	<p><b>Education</b></p>	<p><b>(13)</b> Education Department:                  (a) (working with Police) to develop training approaches for teachers, and materials for school children of all ages re road safety,                  (b) (working with R &amp; B) to receive guidance on speed limit and other signage, pavement markings and platforms at crossings outside schools                  (c) to arrange crossing supervisors at school access/ egress times and                  (d) to request school communities to clamp down on students riding motorcycles to school when unlicensed or unhelmeted.</p>	<p><i>Support as part of planning for demonstration project</i></p>



## 5. POTENTIAL MEDIUM TERM POLICY REVIEWS

### Transport

Transport have asked for assistance with policy development for a strengthened licensing training and testing regimen - and specifically for advice on approaches used in Australian jurisdictions to prepare young drivers for licensing, the current graduated licensing requirements utilized (entailing removal of license related restrictions over time for novice drivers), the license testing methods and the administrative approaches. Two detailed presentations on these Australian approaches to licensing were provided to relevant staff from the Transport Department by the Advisor on February 18<sup>th</sup>. (See Appendix 7)

- It is considered that it would be most useful for Gujarat if a Senior Transport Officer and a Senior Traffic Police Officer were able to travel to Australia to see (in at least the two major States of Victoria and New South Wales) the current good practice graduated licensing system policies which are in place, to discuss administrative arrangements for issuing of learners permits and P1 and P2 (probationary) licenses during the graduated licensing phases, to observe other customer service related driver licensing and vehicle registration activities and to review enforcement and deterrence approaches carried out which are related to license status and road rules generally.

Such a visit could usefully take place before any decision to review licensing policy (in accordance with the attached ToR's) was taken.

### R and B Department

While alteration to road design policies to better reflect safety and safe system thinking will be a matter for the Indian Roads Congress to carry out and to recommend to State Road Agencies, (R and B could actively advocate prompt review and introduction of these policies by the IRC) the Roads and Buildings Department need support in reviewing their processes and training requirements to embrace the mainstreaming of road safety within the organization of the safe system approach (including associated IRC policies) in the years ahead. This will not be a trivial task. The change processes involved are substantial for all road authorities as they reassess and adjust traditional practice to adopt and deliver fundamentally safer infrastructure outcomes. The suggested timing for this Review would be after the demonstration project designs are completed (early 2014).

### Police

Police need support in development of enforcement strategies; standard operating procedures for enforcement; further training in crash investigation; training in enforcement of compliance with: speed limits, drink driving limits, overtaking rules and pedestrian crossing rules for motorists. They also require modern enforcement technologies, supporting systems and training in their application to deliver contemporary good international practice enforcement outcomes

This review should take place some time after the training for the demonstration project enforcement is completed.

### Road Crash Data System Review

It is understood that the current road crash data system is not providing as much useful data to support ready analysis of crash risks as is desirable. Better systems exist in some other States and Gujarat should review ways in which its current system could be strengthened.

It would be most helpful if the Gujarat demonstration Project Working Group members could travel to Tamil Nadu to hold discussions with the Tamil Nadu road safety agencies about their implementation of (and application of the intelligence produced from) the Tamil Nadu road crash data information system. Following such a visit the Project Working Group could determine the extent of external advice required in order to achieve a more functional crash data system.

### **In Depth Crash Analysis**

In order to better understand the factors involved in major fatal crash types (eg involving buses or large trucks/ other road users) it is recommended that the PWG commission an initial review of ten or so relevant crashes involving multiple fatalities for heavy truck overturning and (separately) for ten or so fatal bus crashes, through a university based research group (working with the Project Working Group) to provide analysis and a report and to conduct workshopping of findings with the PWG. The project could proceed as a standalone project within a timeframe which runs in parallel with the demonstration project timeline.

### **Review of Lead Agency Arrangements**

The proposed review of Lead Agency and advice on permanent road safety management and coordination arrangements will be affected by the Proposed Bill. It provides for a Road Safety Council to be established in each State. Given this situation the Project Working Group has requested that this review not proceed until the fate of the Bill is known. When the Bill proceeds, any review should examine how the provisions of the (then) new Act should be implemented.

If the Bill does not proceed (it is suggested by 2015), a comprehensive review should be initiated.

## **6. SUMMARY: RECOMMENDED POLICY REVIEW CANDIDATE ACTIVITIES**

The 5 (five) recommended activities for Policy Review drawn from the table above following discussion with the Project Working Group, summarized below under the recommended responsible agency and for which ToR's have been developed, are as follows:

### **TRANSPORT**

Future licensing options including administration issues / approaches: **(High Priority, high impact, interest, GoG support): Recommended that this option (and its timing if it proceeds) be reviewed after a visit to an overseas driver licensing jurisdiction.**

### **R and B**

Training in Road Safety for proposed *Road Safety Cell* and extension to R & B Districts in:

- Road Safety Audit
- Black Spot Identification/ Treatment
- Safe System application
- Traffic management (inc. work site safety)
- Network wide crash risk assessment - iRAP Extension as part of further World Bank funded road projects

**(Very High priority, High impact, commencing, GoG interest): Recommended to commence in 2014.**

**POLICE**

Enforcement capacity development :

- Strategy for enforcement: State Highway Patrol option; focus, intensity and distribution of enforcement to achieve deterrence
- Enforcement technology advice and identification - and associated back office requirements
- Training and development in key enforcement matters (people on top of vehicles, speed, drink driving, helmets and seatbelts, driver and rider compliance at pedestrian crossings, safe overtaking) especially in higher speed environments – for operational staff and in training college, and associated publicity campaign development and implementation capacities – in association with Transport
- Delegated authority for issuing offences Crash investigations/ reconstruction, training and development for selected group of officers (Phase 2)

**(Very High priority, High impact, commencing, GoG interest): Recommended to commence after demonstration project enforcement has commenced (probably from late 2014)**

**PROJECT WORKING GROUP: CRASH DATA SYSTEM**

The current crash data system is not providing as much useful data for analysis of crash risks as is desirable. Other jurisdictions are doing this and Gujarat needs to address this. It is recommended that enquiries are also made about any development of crash data systems at a national level as a part of any review

**(Very High Priority, High Impact, GoG interest): Recommended priority to commence in 2013**

**PROJECT WORKING GROUP: IN DEPTH CRASH ANALYSIS**

In depth crash analysis is an important means of building understanding of crash factors and those safe system interrelationships which could be adjusted to avoid the severity of outcome of many of these crashes.

A research facility, potentially GERI, should be commissioned by the PWG to collate and analyse in depth the data from a number of crashes (say 10 crashes involving multiple fatalities), of each of two crash types (heavy truck overturning and (separately) bus crashes), document the findings and provide recommendations to the PWG in a workshop environment

**(Very High priority, High impact, GoG interest) Recommended priority to commence in 2013**

**7. SHORT TERM ACTIONS**

**There are also a series of short term actions which could be taken by the agencies to improve road safety. These include:**

- Advice which could be provided to road users on safe operation e.g. using roundabouts, etc., (Obtain information/ material about approaches in high income countries). Capacity to develop promotional/ publicity campaigns to support relevant targeted Police enforcement activity needs to be fostered and can commence as part of the demonstration project.

- Department of Education to consider introducing crossing supervisors outside schools and work with R and B to obtain guidance on speed limit and other signage, pavement markings and platforms at pedestrian crossings outside schools.
- Helmet wearing enforcement efforts could be stepped up immediately by Police. Joint work between Police and Transport is required to lift the penalty for not wearing a helmet from 50 Rp to 200 Rp in coming months– Police believe this would have a strong deterrent effect. Early fatality reductions would be achieved, especially if enforcement could be resourced to focus in a planned way on targeted rural areas.

## **8. PRIORITY STATE ROAD SAFETY POLICIES - DRAFT TORS FOR T/A**

Draft Terms of Reference for review of the priority policies/ guidelines/ implementation supports/ training, as identified in Section 6 above (and based upon discussions with the Working Group, Group Chair and Members) have been prepared and are attached in Appendix 2.

## **9. REVIEW OF EXISTING INSTITUTIONAL ARRANGEMENTS AFFECTING ROAD SAFETY**

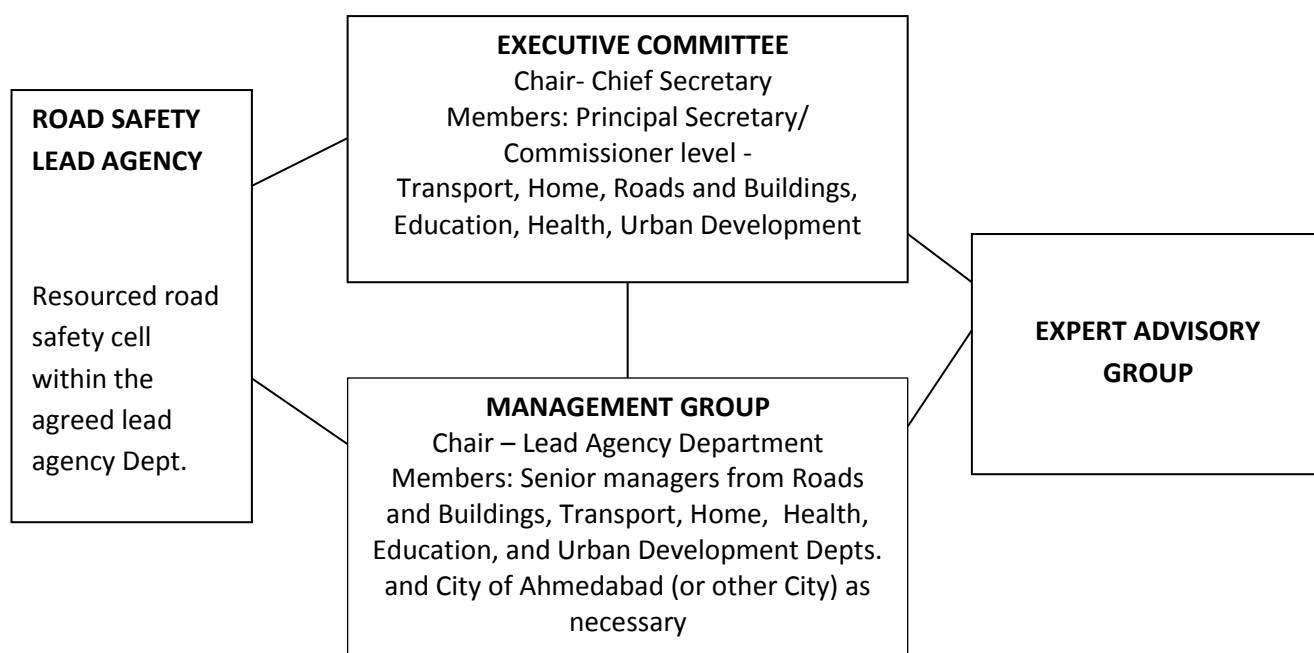
The Adviser was required to assist the Project Steering Committee to draft TOR's for a formal review of existing institutional arrangements affecting road safety and make recommendation for preferred option(s) for a State Lead Agency role and structure and a financing mechanism for road safety in Gujarat.

Such a review will be affected by the Motor Vehicles Bill, which provides for a Road Safety Council to be established in each State. Given this situation the Project Working Group has requested that this review not proceed until the fate of the Bill is known.

If the Bill does not proceed (by, it is suggested, 2015), a comprehensive review could be initiated. If the Bill proceeds, any review should examine how the provisions of the (then) new Act should be implemented.

It may well prove a distraction to have a Project Working Group and Project Steering Committee operating concurrently with a road safety management structure for road safety decision making in general, during the demonstration project period. Ideally, the permanent road safety management arrangements should grow from the demonstration project activity, albeit with the decision on lead agency to be made at the appropriate time – which would preferably be after the demonstration project is in operation on the ground.

A possible basis for potential institutional arrangements for Road Safety Management in Gujarat in due course could be as follows:



The Transport Department have advised that they have drafted a potential basis for legislative action now at State level to establish a Road Safety Authority, along the lines of the Kerala model.

It is recommended that this input be held in abeyance until the national Bill is enacted and then a review take place, considering the Transport work, the model suggested above and the insights gained from the demonstration project.

Preliminary draft ToR's for the Lead Agency review activity (after the current Bill is adopted or in 2015) are included in Appendix 3.

## 10. DEMONSTRATION PROJECT STATUS

The demonstration project locations are considered appropriate and detailed planning, design and implementation of necessary works, campaign preparation, planning for schools measures, emergency crash victim retrieval and enforcement (including training), should proceed as soon as possible, supported by necessary training of operational staff.

For example, the training and preparation of Police activities for the project should proceed during the design and construction phase of the physical works.

To ensure that all school levels (ie senior school level students) are involved in the demonstration project it is recommended that the Commissioner of Schools be added to the Project Working Group to supplement the primary and mid-level schools representation.

## 11. DEMONSTRATION PROJECT - KEY STEPS FOR EACH AGENCY

The proposed project management functions for each Agency as set out in the final RSMCR report are set out in Appendix 4 (See Table 5: Project management functions)

The RSMC Review recommended that a demonstration project be conducted with interventions from the key agencies applied to be effective over an implementation phase. This will require as many of the following potential activities to take place before the actual launching of operation of the demonstration corridor (and the subsequent measurement of performance improvement):

- commissioning and conduct of baseline surveys by the PWG (in progress)
- support for a road safety cell (of 4 persons initially) to be established as soon as possible within each of R and B and Police. This should occur as an early priority, prior to the demonstration project getting underway and under the technical assistance intended to be made available as part of the demonstration project support.
- infrastructure safety measures construction and installation
- enforcement planning, training and equipment procurement and training for Police (and for Transport Officers for their role with heavy vehicle safety enforcement)
- review bus schedules to reduce incentives for speeding/ overtaking behaviours
- increasing the existing level of penalties for not wearing helmets or seat belts/ drink driving/ speeding/ driving unlicensed/ driving overloaded/ unsafe overtaking/ not giving way to pedestrians at a pedestrian crossing/ running a red light or operating a vehicle with inoperable lights (front or rear)
- Planning and preparing social marketing campaigns which will promote the awareness of the project locations and support the proposed enforcement of legal behaviours within the project area
- Planning, (and readiness for introduction of) management and education measures to improve school community road safety capacity (teachers) and education delivery (students) plus completion of implementation of schools focused infrastructure safety measures outside schools and at pedestrian crossings outside schools (plus provision of crossing supervisors) and active discouragement of illegal student road user behaviours in getting to/ from school,
- Training of first responders for many of the regular road users from (or the public working or living along) the selected routes by the Health Department
- Preparing the emergency management system for rapid retrieval and carriage of victims to trauma treatment facilities
- Police, R and B, Transport officers in this demonstration project region to wear seatbelts (front and rear) and helmets when riding motorbikes, when on duty
- Recording of hospital admissions from road crashes and feedback monthly to local police of fatal and serious injury data
- Across all Departments (and Local governments) involved in the Demonstration project: Good practice behaviours for seat belt wearing (front and rear) and for helmet wearing to be modelled by all staff

The RSMC Review set out a recommended list of project components/ interventions across the sectors for the demonstration corridors. They are set out in Appendix 5.

The Project Working Group with R and B Department support has proposed that two sections of the road corridor between Dahegam and Valia in Bharuch District would be the project road safety corridors. Other corridors could be treated in the same way as the benefits of this project are achieved and understood and ongoing State budgets can be adjusted to expand delivery of these road safety benefits.

The Department has proposed that the road safety corridor would comprise the following sections:

- *Dahegam-Bharuch* : 9.6 km along SH-06
- *Ankleshwar – Valia*: 20 km along SH-13

(NOTE: The 12.6 km section of road - *Bharuch- Ankleshwar* : along SH-76 is now to be excluded from the project due to the potential distorting effects on crashes of the narrow bridge over the Narmada river)

## 12. SUMMARY OF KEY ACTIONS and SUGGESTED TIMINGS FOR DEMONSTRATION PROJECT

It is suggested that the T/A for the demonstration project should comprise three separate but related components:

**Stage 1** - to support the Project Working Group (PWG) and Departments to plan the detailed implementation of the project ;

**Stage 2** - (with T/A ToR's prepared in Stage 1 by the Advisor working with the PWG) to implement specific detailed pieces of work by specialists some 4 months after Stage 1 and prepare ToR's for Stage 3 T/A; and

**Stage 3** - which will review preparedness just prior to the demonstration project going 'live' some 6 months after Stage 2 commences.

Timings and specific areas of focus are set out in the Table below.

DEPARTMENT	Demonstration project activities for which T/A is required	Timing of T/A Stage 1: May 2013	Timing of T/A Stage 2: September 2013	Timing of T/A Stage 3: March 2014
<b>Project Working Group</b>	Meeting regularly and coordinating departmental activities	T/A to review: <ul style="list-style-type: none"> <li>• infrastructure measures,</li> <li>• campaigns content, Police enforcement preparedness,</li> <li>• Transport Officer enforcement preparedness</li> <li>• Education preparedness for schools,</li> <li>• Health preparedness for post crash care in corridor</li> </ul>		
<b>Police</b>	Enforcement planning, training, automated and traditional equipment specification and, procurement and training in its use for Police;	See PWG T/A	Enforcement activity training	Enforcement activity final equipment training and review
	Crash investigation unit establishment and training	Advise on scope	Crash investigation activity	Final review
	Training of road safety cell in police	Advise on roles	Provide training	
<b>Transport</b>	Transport Officers enforcement planning, training and automated equipment procurement for heavy vehicle safety	See PWG T/A	Enforcement activity training	Enforcement activity final equipment training and review
	Review of bus schedules to reduce time pressures which encourage speeding and unsafe overtaking	Discuss	Review proposed actions	
	Training of existing road safety cell	Advise on roles	Provide training	

<b>Police and Transport</b>	Planning and preparing social marketing campaigns	See PWG T/A	Campaign activity preparation	Campaign activity final review
	Road user information materials	Discuss	Review	Final review
<b>R and B</b>	Review of preliminary designs for safety measures	See PWG T/A	Review	
	Review of traffic management provisions and associated supervision proposed during the works	Discuss	Review	
	Training of road safety cell	Advise on roles	Provide training	
<b>Education</b>	Education actions advice	See PWG T/A	Provide advice	Review

Preliminary Draft TOR's for T/A (Stage 1) for the Demonstration project are set out in Appendix 5.

### 13. KEY ROAD SAFETY ISSUES AT NATIONAL LEVEL

There are a number of key issues at National level where advocacy from the relevant GoG departments will be useful in achieving necessary supportive change to improve road safety outcomes.

These include:

- Supporting passage of the Motor Vehicles Bill Vehicle safety initiatives
- Heavy vehicle safety of operation (Driving hours)
- Indian Roads Congress adoption of new policies and guidelines and standards that reflect safe system thinking to enable States to apply these. R and B in Gujarat should press IRC to move to develop and introduce new policies and guidelines as a priority (and obtain the support of other States for early action)

### 14. RECOMMENDATIONS:

That the Project Working Group support and recommend to the Steering Committee:

- Adoption of the (5) five priority policy reviews and the timing recommended in Section 6.
- Implementation of the short term actions listed in Section 7.
- Adoption of the TOR's for the review of lead agency and associated matters and the timing of any review as set out in Section 9 and Appendix 3
- Adoption of the draft TOR's for T/A (Stage 1) for the demonstration project as set out in Appendix 5 and the key actions for the Demonstration Project as set out in Section 11 which are to be taken by Departments
- The following measures:
  - The Commissioner of Schools being added to membership of the WG.
  - A Senior Officer from the Department of Transport and from the Gujarat Traffic Police having the opportunity to travel to Australia to see (in at least the two States of Victoria and New South Wales) the current good practice graduated licensing system policies which are in place, to discuss administrative arrangements for issuing of learners permits and P1 and P2 (probationary) licenses during the graduated licensing phases and other customer service related driver licensing and vehicle registration activities and to review enforcement and deterrence approaches carried out which are related to license status and road rules generally



- the demonstration project Working Group members having the opportunity to travel to Tamil Nadu to hold discussions with the Road safety agencies about the implementation of (and application of the intelligence produced from) the Tamil Nadu road crash data information system.
- Support establishment of a small road safety cell within R and B and Police organisations as soon as possible to support the progressive knowledge development and capacity building task

**Eric Howard**

**6.03.2013**

**APPENDIX 1:****“CURRENT” STATE POLICIES, RELATIVE IMPORTANCE, IMPACT POTENTIAL, STATUS AND GOG OWNERSHIP**

<b>“Current” State Policy</b>	<b>Relative importance</b>	<b>Impact potential</b>	<b>Current status</b>	<b>GoG ownership/support</b>
<b>Transport</b>				
Electronic Driver licensing records system	High	High	In progress	Yes
Linking offence data and demerit points from courts to licensing records	Very high	Very high	Proposed	Yes
Electronic vehicle registration system	High	High	In progress	Yes
Heavy vehicle (bus) fitness	Medium	Medium	In progress	Yes
Heavy vehicle (truck) fitness	Medium	Medium	In progress	Yes
Heavy vehicle (bus) driving hours	High	Very high	National action required	Yes
Heavy vehicle (truck) driving hours	High	Very high	National action required	Yes
HV Enforcement - overloading	Medium	Medium	In progress	Yes
HV Enforcement - speeding	High	High	Proposed	Yes
Driver learner (pre licensing) experience/training	High	High	Interest	Yes for medium term planning
Driver license testing	High	High	Interest	Yes for medium term planning
HV driver training	High	High	Interest	Yes for medium term planning
HV driver license testing	High	High	Interest	Yes for medium term planning
Registered vehicle status (After crashes but could usefully be extended)	High	High	Interest	Yes
<b>Roads and Building</b>				
Safe system project review processes	High	Very high	Interest	Yes
iRAP/ Blackspots policies/ guidelines	Very high	Very high	Interest	Yes
RSA policies/ guidelines	High	High	Interest	Yes
Traffic management	High	Very high	Interest	Yes

Policy development processes	High	Very high	Interest	Yes
<b>Police</b>				
Crash data availability	High	Very high	Interest	Yes
Crash investigation	High	High	Interest	Yes
Training and implementation: Enforcement				
– license status	High	High	Interest	Yes
– unimpaired driving, alcohol	High	High	Interest	Yes
- unimpaired driving, drugs	Medium	Low	Interest	Yes
– speeding	Very high	Very high	Interest	Yes
- seat belt wearing	Very high	Very high	Interest	Yes
- helmet wearing and number of two wheeler passengers	Very high	Very high	Interest	Yes
– traffic signal compliance	High	High	Interest	Yes
– driving against traffic direction	High	Medium	Interest	Yes
- unsafe overtaking	High	Very high	Interest	Yes
- pedestrian crossing compliance by drivers	High	High	Interest	Yes
- registered vehicle status (After crashes but could usefully be extended)	High	High	Interest	Yes
Enforceability of recorded offences	Very High	Very high	Interest	Yes
Justice system policies influencing successful enforcement	Very High	Very high	Interest	Yes

**APPENDIX 2. PRELIMINARY DRAFT TOR'S FOR POTENTIAL POLICY AREAS FOR REVIEW****2.1 DRAFT TOR's FOR FUTURE LICENSING POLICY REVIEW: FOR GRADUATED LICENSING, DRIVER TRAINING/ EXPERIENCE GAINING AND LICENSE TESTING.**

The Transport Department of the State of Gujarat is seeking advice on the adoption of new policy and administrative systems for the following activities:

- Registration/ certification of approved driving test examiners and driver training centres in Gujarat
- Improving the quality of driver preparation for licensing and levels of safety of novice drivers and riders
- Potential graduated licensing introduction for novice drivers and riders
- Driver registry organization - good international practice to support current modernization activity and give effect to processes adopted from the above policy review and to improve overall operations

A very major systems change program is underway and is planned to be in place by early 2014 which will introduce statewide electronic licensing and vehicle registration system data bases. In addition, offence rationalization and modified supervisory arrangements and delegations to Police for issuing future offences are proposed. Penalties (hopefully at the upper end of the recommended maxima for penalties in the New Act) will need to be agreed by Government if/when the New Motor Vehicle Act is introduced at national level.

**Objectives**

The objectives of the required technical assistance services are to:

- Review driver preparation for licensing, including training and gaining experience, license testing and licensing practices.
- Recommend and scope measures to upgrade driver training, testing and licensing practices, which would be consistent with a longer term progression to a graduated licensing system.
- Recommend measures (and where necessary scope proposals) to improve the administrative efficiency of license testing, license issuance, license renewals and data analysis from the licensing data base

**Outputs**

The outputs of the required technical assistance services are as follows:

- (a) *Review and recommend improvements to current driver training and driver experience gathering, license testing and licensing practices.*

Outputs

- International good practice benchmarking of current driver training and experience gathering, testing and licensing practices.
- Recommended short-term and long-term improvements to the current and planned practices for driver training, testing and licensing, and an action plan for improvement program.
- Provide scoping of a driver training, testing and licensing improvement program.

- (b) *Identification of a desired longer term graduated licensing system for new learners and licensed drivers in Gujarat*

Outputs

- Detail potential options for introduction – in stages – of a graduated licensing system for Gujarat in the longer term , specifying likely costs of implementation, potential timing and road safety benefits

*(c) Scope a good practice driver training, license testing and licensing program and guidelines.*

Outputs

- Network-wide driver training, testing and licensing program, including cost estimates and implementation schedule.
- Guidelines detailing requirements for improved driver training, testing and licensing practices which are consistent with moving progressively to a longer term graduated licensing system for Gujarat

**Professional skills and experience required**

Graduated Driver Licensing Policy Specialist

A specialist with about 10 years experience with driver licensing policy development in a state or national jurisdiction. A thorough knowledge of international best practice and associated research evidence for graduated driver licensing system initiatives is essential. Previous experience in the provision of advisory services to a national or state driver licensing policy agency in a developing or transitional country is desirable.

Driver Testing and Licensing Specialist

A specialist with about 10 years experience with motor vehicle driver training, testing and licensing in a national jurisdiction. A thorough knowledge of international best practice is essential. Previous experience in the provision of advisory services to a national or state driver testing and licensing agency in a developing or transitional country is desirable.

Registry Management Specialist

A specialist with about 10 years experience with the management of modern registry systems for drivers and vehicles and related business procedures and technology. Extensive experience working at a senior management level in a national or state registry is essential. Previous experience working with a national registry in a developing or transitional country is desirable.

*For all team members, a demonstrated ability to work with and gain the trust of senior government of officials and professional peers is essential.*

**2.2 DRAFT TOR'S FOR THE REVIEW OF GENERAL DETERRENCE POLICE ENFORCEMENT (TARGETING UNSAFE BEHAVIORS) AND PENALTY FRAMEWORKS**

The State of Gujarat is conducting a road safety demonstration project in 2013 and 2014 which will include measures to strengthen police enforcement capacity and develop further the police crash investigation capacity in the limited geographic area of the demonstration project.

Following implementation of the demonstration project, technical assistance to review needs, develop strategy and to develop police enforcement capacity including; identification of technology and back

office support activities; and provision of training in enforcement across the Gujarat Traffic Police is proposed.

## Objectives

The objectives of the required technical assistance services are:

- to develop a strategy to achieve deterrence of unlawful and unsafe behaviours on the Gujarat road network through enforcement systems and practices and evaluate operation
- provide advice and recommendations on enforcement technology application and implementation and associated back office requirements necessary to support the implementation
- to identify needs and provide training and development in key enforcement matters (eg., passengers sitting on top of vehicles, speeding, drink driving, helmet and seatbelt wearing) especially in higher speed environments – for operational police staff and in the police training college,
- to provide guidance as input to enforcement associated publicity campaigns – in association with Transport
- review and agree streamlined delegation of authority to line police for the issuing of offences
- provide training in crash investigations/ reconstruction, for a selected group of officers

## Outputs

The outputs of the required technical assistance services are as follows:

- (a) *Support the preparation of annual police enforcement programs to achieve the general deterrence of unsafe behaviors in high-risk corridors and areas.*

### Outputs

- Identification of unsafe road user behaviors in high-risk corridors and areas.
- Operational strategies, practices, tactics and related guidelines to address unsafe behaviors in high-risk corridors and areas.
- Review potential benefits of a designated highway patrol dedicated to higher speed roads law enforcement and recommend a future approach
- Annual programs of (monthly) scheduled enforcement operations targeting unsafe behaviors in high-risk corridors and areas.
- Analysis of equipment needs and specification and costing of additional equipment required to support annual enforcement programs.
- Draft bidding documents for the procurement of additional equipment and back office support requirements.
- Review resourcing and recommend required levels of enforcement (person hours and equipment operating hours) to achieve widespread compliance with road laws
- Identify on-the-job support needs for the implementation of annual enforcement programs.

- (b) *Train police staff at all levels in the implementation of annual enforcement programs in the high-risk corridors and areas.*

### Outputs

- Preparation and delivery of a basic training program to upgrade the traffic safety knowledge and skills of all road policing staff.
-

- Preparation and delivery of advanced training course on general deterrence theory and practice, and related operational strategies and tactics, for senior police.
- Preparation and delivery of management training on the supervision of program implementation by operational supervisory staff.
- Adopted delegations of authority to support more streamlined and widespread enforcement

(c) *Evaluate the efficiency and effectiveness of police enforcement programs in the high-risk corridors and areas.*

Outputs

- Design and conduct of evaluations of police enforcement programs in high-risk corridors and areas
- Recommended improvements to police enforcement programs based on the evaluation findings in high-risk corridors and areas.
- Evaluation of effectiveness of adjusted delegated authority measures for police to support widespread issuing of infringements

(d) *To provide guidance as input to enforcement-associated publicity campaigns – in association with Transport*

Outputs

- Guidelines for publicity campaigns as they relate to Police enforcement

(e) *Provide training in crash investigations/reconstruction, for selected group of officers*

Outputs

- Skilled core of officers able to conduct good international practice crash investigations
- Adequate equipment and training to conduct investigations and report to the Courts and (on technical issues only) to the road safety partnership

## **Professional skills and experience required**

### Enforcement Management Specialist

A specialist with about 10 years experience in traffic enforcement leadership, coordination and policy advice in a national or state traffic Police agency operating a successful general deterrence model. A demonstrated ability to communicate road safety enforcement principles and tactics to a broad audience is essential. Previous experience in a law enforcement training facility is desirable.

### Enforcement Operations Specialist

A specialist with about 10 years policing experience, including the line-management of traffic enforcement staff. Practical experience in the design, implementation and management of road safety enforcement strategies in a national Police agency operating a successful general deterrence model is essential. A demonstrated ability to communicate road safety enforcement principles and tactics to a broad audience is also essential. Previous experience in a law enforcement training facility is desirable.

### Enforcement Equipment Specialist

A specialist with about 10 years experience in the specification, sourcing, evaluation and procurement of road safety equipment and tools in a national or state Police agency operating a successful general

deterrence model. A demonstrated understanding of modern operational safety enforcement practices is essential.

#### Enforcement Training Specialist

A specialist with about 10 years experience in the design, implementation and evaluation of police officer and recruit training and development programs. Operational experience in a national or state police training college is essential.

#### Safety Analysis Specialist

An internationally recognized specialist with about 10 years experience conducting scientific analyses of road environment, vehicle and human factors contributing to road crashes and injuries. Hands-on experience of quantitative evaluations of safety interventions and outcomes is essential. Experience of road safety analyses in developing and transitional countries is desirable.

*For all team members, a demonstrated ability to work with and gain the trust of senior government officials and professional peers is essential.*

### **Support from the International Road Policing Organization (RoadPOL)**

RoadPOL support is recommended for the delivery of these outputs, given the specialist nature of road policing and the general preference of road policing agencies to work on a peer-to-peer basis with officers from other relevant police agencies. Contact details are:

Email: [rob.robinson@roadpol.org](mailto:rob.robinson@roadpol.org)

## **2.3 DRAFT TOR'S FOR TRAINING IN SAFE INFRASTRUCTURE KNOWLEDGE AND AWARENESS**

### **Safe Road Infrastructure**

In order to achieve a satisfactory level of safe system awareness and to develop the ability to apply various tools to infrastructure design, a satisfactory level of training and knowledge transfer across the R and B department will be required over a number of years.

Training in road safety will be necessary for the proposed Road Safety Cell, to be followed by its extension to staff in R & B Districts.

### **Objectives**

The objectives of the required technical assistance services are to transfer knowledge to senior engineering management, project planning engineers and design engineers through training in:

- Road Safety Audit
- Black Spot Identification/ Treatment
- Safe System application
- Traffic engineering infrastructure
- Work site safety
- Network crash risk assessment and potential treatments (RAP assessment and treatment options)



plus review of guidelines, policies and processes to be applied by R and B (based on revised Indian Roads Congress revised and adopted standards and policies) in order to mainstream road safety into the organisation's activities and deliverables.

## Outputs

The outputs of the required technical assistance services are as follows:

(a) *Road safety audit training*

### Outputs

- Understanding of the road safety audit process
- Knowledge of the four stages of audit for new projects
- Ability to conduct road safety audit at the four stages
- Ability to conduct road safety inspections on the existing network
- Identification of a road safety auditor accreditation process to be pursued for Gujarat engineering practitioners

(b) *Black spot identification, analysis and identification of treatment options*

### Outputs

- Analysing crash data to identify blackspots
- Developing treatment options
- Identifying cost effective treatments

(c) *Safe System application*

### Outputs

- Improved awareness and understanding of safe system thinking
- R and B Cell and project planning engineers to have capacity to analyse the major crash risks on the system using safe system approaches
- Senior engineering management to have capacity to introduce safe system thinking into project discussions at concept stage
- Project Design engineers to have capacity to develop infrastructure solutions based on safe system thinking

(d) *Traffic engineering infrastructure*

### Outputs

- Design engineers to have an understanding of the principles involved in reducing serious crash risk outcomes through use of simple traffic engineering infrastructure measures
- Design engineers and senior engineering management to have capacity to develop cost effective traffic management infrastructure solutions to reduce fatal and serious injury crash risk

(e) *Work site safety*

Outputs

- Development of understanding for works planning and supervisory engineers of need for planning and delivery of management of traffic through work zones
- works planning and supervisory engineers to require solutions from contractors for safe traffic management through worksites and have the capacity to adjust proposals received to ensure safe operation and to supervise the application of the agreed measures

(f) *Network crash risk assessment and potential treatments (RAP assessment and treatment options)*

Outputs

- Project planning and senior design engineers to have capacity to
  - commission iRAP surveys and interpret results re crash risk
  - identify cost effective infrastructure solutions to reduce fatal and serious injury crash risk measures

**Professional skills and experience required**

Safe System specialist

A specialist with about 10 years experience in the design, implementation and evaluation of infrastructure safety programs with operating road authorities and in safe system training of authority staff

Road Safety Engineering specialist

A specialist with about 10 years experience in road crash risk assessment at a network level (RAP) and at a localized level (Blackspots) and in treatment development and implementation at a network and a localized level, preferably gained with an operating road authority. Traffic engineering (infrastructure) experience in the context of infrastructure safety improvements especially at intersections is also required.

Road Safety Audit Specialist

A specialist with at least 10 years experience in the conduct of road safety audit for new projects, in the development of road safety audit policy and its application, implementation and monitoring; and in training (and initial accreditation) of engineering staff in road safety audit practice

Work Site Safety Specialist

A specialist with at least 5 years experience in the development, monitoring and management of roadworks site safety

*For all team members, a demonstrated ability to work with and gain the trust of senior government officials and professional peers is essential.*

## 2.4 DRAFT TOR'S FOR THE CONDUCT OF AN IN-DEPTH ANALYSIS OF A SELECTED NUMBER OF SIMILAR FATAL CRASHES INVOLVING MULTIPLE FATALITIES

### In Depth Road Crash Analysis

In order to establish common factors in a crash type of major concern, an in-depth analysis of a number of crashes of a selected type is required. Fatal crashes involving multiple fatalities from large vehicle involvement, (eg., truck overturning due to overloading or passenger bus crashes) are to be analysed in depth to establish any patterns of involved factors and to establish a methodology to be applied to future in depth crash investigations.

### Objectives

The objectives of the required technical assistance services are

- to develop capacity in Gujarat to analyse in-depth the factors involved in specific crashes
- to develop the capacity to identify common factors in a series of crashes of a particular type
- to identify the factors involved in a number of recent multiple fatality crash categories involving (1) trucks overturning and (2) buses, and
- to establish a methodology to be adopted for future in depth crash investigations

### Outputs

The outputs of the required technical assistance services are as follows:

(a) *Selection of crashes and collection of data*

Outputs

- Identify 10 crashes involving heavy trucks overturning and 10 crashes involving passenger buses where four or more fatalities have occurred and where extensive data is likely to be available
- Assemble as much data as possible for each crash from Police, hospital, road authority, insurance organization and other records
- Examine and collect information from the scene of each crash about infrastructure safety
- Collect data and relevant pre and post-crash information from any crash survivors or crash observers willing to talk to investigators
- Examine any vehicle condition data from records available or from examination of the crashed vehicles if possible
- Request police assistance in accessing any available crash reconstruction material and findings

(b) *Conduct crash reconstructions and prepare reports on all crashes identifying factors involved in each crash separately for the truck overturning crashes and for the bus involved crashes*

Outputs

- Reports on the factors involved in the individual truck overturning fatal crashes
- Reports on the factors involved in the individual bus involved fatal crashes

(c) *Prepare a draft Report which reviews each individual crash report and identifies common factors in the complete selection of crashes for each of the two groups*

#### Outputs

- Draft Reports on the common factors involved in the truck overturning fatal crashes
- Draft Reports on the common factors involved in the bus involved fatal crashes

(d) *Conduct a half day workshop with the GoG Project Working Group for the Gujarat road safety project at which the draft report is to be discussed with Working Group members and subsequently amended to reflect the discussion and any further review requested. Present the final report to a meeting of the Project Steering Committee which recommends the methodology to be followed for future in-depth crash analyses in Gujarat*

#### Outputs

- Conduct of a workshop with the Project Working group to discuss draft report findings
- Review of the draft Report including further analysis as required from the workshop
- Presentation of the final report to the Project Steering Committee including recommended future methodology
- Ensure Project Working Group members are acquainted with the methodology to be recommended for use for future in depth analyses

### **Scheduling of tasks**

The scheduling of the required applied research project is as follows:

- Carry out the project within a six month period leading up to the presentation to the Project Working Group workshop.
- Liaise with the Project Working group on a two weekly basis during the conduct of the research project

### **Professional skills and experience required**

#### Safety Analysis Specialist

An internationally recognized specialist with about 10 years experience conducting scientific analyses of road environment, vehicle and human factors contributing to road crashes and injuries. Hands-on experience of in depth investigations of heavy vehicle crashes and factors involved is essential. Experience of road safety analyses in developing and transitional countries is desirable.

#### Health sector practitioner

An internationally recognized medical specialist in the review of road crash injury incurred from road crashes with about 10 years experience in the detailed analysis of injury incurred by road users in road crashes

#### Researcher

An experienced road safety researcher with at least 5 years experience in procuring and examining crash data and reporting on crash outcomes

#### Senior level (Reviewing) Research Organisation

A review of the proposed methodology to be used (and ultimately recommended to the Project Steering Committee) is to be arranged with a recognized national road safety research entity – or, if preferred, an international road safety research entity

*For all team members, a demonstrated ability to work with and gain the trust of senior government officials and professional peers is essential.*

## 2.5 DRAFT TOR'S FOR THE REVIEW OF OPTIONS AND ADOPTION OF AN IMPROVED ROAD CRASH DATA SYSTEM FOR GUJARAT

### Objectives

The objectives of the required technical assistance are to:

- Support the evaluation of the current road crash data system for comprehensiveness and suitability for analysis of road crash problems.
- Consider options to improve (or replace) the current system and in consultation with the Project Working Group, identify the preferred option for upgrading of the State road crash and data analysis system.
- Scope any required procurement and technical assistance, including training of police in data capture and training of users in diagnostic techniques and system applications.

### Outputs

The outputs of the required technical assistance services are as follows:

- (a) *Support the evaluation of the current Gujarat road crash data system for comprehensiveness and suitability for analysis of road crash problems*

#### Outputs

- Evaluation of current procedures and systems for reporting, recording and analyzing road crash data and the extent to which current system capability meets agency requirements for analysis and understanding of road crash problems.
- Identify necessary modifications to current and planned procedures and systems for reporting, recording and analyzing road crashes to improve data system application.
- Identify preliminary costings for the necessary potential modifications option, including hardware and software modification requirements and user documentation and training needs

- (b) *Consider options to replace the current system*

#### Outputs

- Examine other available systems which are operating in India and may be under preparation nationally and the extent to which they meet agencies requirements (for practicality of data collection by police and for the required level of analysis and understanding of road crash problems by other agencies)
- Evaluate measures required to be taken for each option and the estimated costs and project duration to implement these systems in Gujarat

- (c) *In consultation with the Project Steering Committee/ Project Working Group, compare the options for (i) limited modification of the current system and (ii) replacement with (procurement of) an existing system operating in another Indian State*

#### Outputs

- Provide a report to, and work with, the PWG to agree the preferred solution

**HOLD POINT: Decision on preferred option to be taken at this point by the Project Steering Committee in association with the Bank. Further time inputs required to complete this stage of the work are to be agreed at this time with the advisor.**

If Alternative (i) is selected:

(d) *Advise on needs for training of agency and police staff*

Outputs

- ToR's for training of relevant staff in the agencies and in police on system support and application of the data from the system
- Provide guidance on resources required for data processing/ data entry validation into the system and for analysis of the data by Police, R and B and Transport to be provided to the Project Steering Committee.
- Provision of a schedule of activities and suggested timelines for the Project Steering Committee and Project Working Group to guide any procurement, installation, training and commissioning.

If Alternative (ii) is selected:

(d1) *Scope any required procurement and technical assistance for a replacement system, including training of police in data capture and training of users in diagnostic techniques and system applications.*

Outputs

- Scope the procurement and technical assistance required, by drafting documents for the procurement of the information technology services and equipment, and ToR's for the technical assistance required, including training of police in data collection and entry and training of staff from other Departments in the effective application of the data for the system (the use of relevant diagnostic techniques and data analysis applications.)
- Recommend a process to ensure analysis of crash data collected is conducted at an early stage of implementation to ensure that it will permit agency users to identify higher risk sections of the road network and to develop safety improvement programs for the network.
- Provide guidance on resources required for data processing/ data entry validation into the system and for analysis of the data by Police, R and B and Transport to be provided to the Project Steering Committee
- Provision of a schedule of activities and suggested timelines for the Project Steering Committee and Project Working Group to guide procurement, installation, training and commissioning.

### **Professional skills and experience required**

Crash Data Base Specialist

An IT specialist with about 10 years of road safety experience, especially with road crash information systems including user friendly interfaces (such as Microsoft Windows), SQL type databases and GIS development. Experience with training of system users is essential. Experience with crash databases in developing and transitional countries is desirable.

IT Project Management Specialist

A specialist with about 10 years experience in managing complex information technology (IT) projects, across a range of public sector agencies and levels of administration. Experience with crash analysis systems and the administration and management of institutions related to the road sector is desirable.

Experience with the management of complex IT projects in developing and transitional countries is preferred.

Safety Analysis Specialist

An internationally recognized specialist with about 10 years experience conducting scientific analyses of road environment, vehicle and human factors contributing to road crashes and injuries. Hands-on experience of quantitative evaluations of safety interventions and outcomes is essential. Experience of road safety analyses in developing and transitional countries is desirable.

*For all team members, a demonstrated ability to work with and gain the trust of senior government officials and professional peers is essential.*

**Support from the International Road Traffic Accident Database Group (IRTAD)**

IRTAD support is recommended for the delivery of these outputs. Contact points are available.

## APPENDIX 3

### DRAFT TOR'S FOR THE REVIEW OF EXISTING INSTITUTIONAL ARRANGEMENTS

#### **ARRANGEMENTS FOR MANAGING ONGOING ROAD SAFETY ACTIVITY IN GUJURAT (BEYOND THE DEMONSTRATION PROJECT)**

While an existing multi – sectoral Steering Committee and Working Group is overseeing the planning and delivery of a multi – sectoral road safety Demonstration Project in the Baruche District of Gujurat, institutional arrangements for the medium to longer term management of road safety in the State are not yet agreed.

It is intended that this activity will review existing institutional arrangements affecting road safety and develop preferred options for a State Lead Agency role and structure for road safety in Gujurat and for a financing mechanism for road safety in Gujurat

#### **Objectives**

The objectives of the required technical assistance are to:

- Review existing institutional arrangements for the management of road safety in Gujurat
- Identify preferred options for a State Agency to carry out the lead Agency Role
- Identify necessary resourcing for the lead agency and the other key agencies and reach agreement with the Project Steering Committee about resourcing to enable road safety management in Gujurat to be effective
- Identify and reach agreement on the decision making arrangements between agencies and the consultative and advisory arrangements with other stakeholders to support road safety in Gujurat
- Identify capacity development (including training) needs in road safety management for the road safety positions to be established in the lead agency and other agencies and for the senior officers in these Agencies
- Identify options for (further) development of a Gujurat university based road safety research centre, including potential collaboration with another centre such as IIT or other centres of road safety research excellence
- Identify options for increased interaction with NHAI and other States to improve road safety management capacities and road safety outcomes
- Develop recommendations for a financing mechanism for road safety in Gujurat and achieve an agreed outcome with the Project Steering Committee

#### **Outputs**

The outputs of the required technical assistance services are as follows:

- (a) *Review existing institutional arrangements for the management of road safety in Gujurat.*

##### Outputs

- Summarise the detailed roles of each of the agencies from the RSMCR and the RSMCR findings
- Review the operational effectiveness of the Project Steering Committee and Project Working Group arrangements in overseeing the demonstration project and (potentially) some commissioned policy reviews.



(b) *Identify preferred options for a State Agency to carry out the lead Agency Role*

Outputs

- Specify the preferred option(s) for the lead agency role
- Identify necessary resourcing for the agency to carry out that role and obtain the agreement of the Project Steering Committee to resourcing needs.
- Identify necessary resourcing for other agencies to carry out their roles in support of effective road safety management across the agencies in order to achieve desired road safety outcomes

(c) *Achieve agreement on the decision making arrangements between agencies and the consultative and advisory arrangements with other stakeholders which are to be established*

Outputs

- Agreed decision making arrangements (structures and processes) between agencies
- Agreed consultative and advisory arrangements with other stakeholders to support road safety in Gujarat
- A document summarising these arrangements to be signed by all Project Steering Committee members

(d) *Agreed road safety capacity development, research development and national partnership needs identified*

Outputs

- road safety management training and development needs for the road safety positions to be established in the lead agency and other agencies and for the senior officers in these Agencies to be specified and agreed
- Proposals for (further) development of a Gujarat university based road safety research centre, including potential collaboration with another centre such as IIT, or other centres of road safety research excellence, to be specified and agreed
- Options for increased interaction with NHA and other States to improve road safety management capacities and road safety outcomes to be identified and agreed

(e) *Develop recommendations for a financing mechanism for road safety in Gujarat*

Outputs

- Options for securing agreed long term funding for road safety in Gujarat identified and agreed by agencies/ Project Steering Committee

**Professional skills and experience required**

Road Safety Management Specialist(s)

One or more internationally recognized specialists with about 15 years practical experience in managing road safety within government agencies, preferably a lead agency. Experience with road safety management issues in rapidly motorizing countries is essential.

*A demonstrated ability to work with and gain the trust of senior government officials and professional peers is essential.*

**APPENDIX 4: EXTRACT FROM RSMCR REPORT: TABLE 5: PROJECT MANAGEMENT FUNCTIONS**

<b>PROJECT STEERING COMMITTEE AND WORKING GROUP MEMBERS</b>	<b>SUGGESTED PROJECT MANAGEMENT FUNCTIONS FOR PROJECT COMPONENTS 1-4</b>
Chair of Project Steering Committee – Chief Secretary	
Project lead agency support Roads and Buildings Department	<ul style="list-style-type: none"> <li>- Chair of Project Working Group</li> <li>- Support role for:               <ul style="list-style-type: none"> <li>- Project leadership</li> <li>- Project coordination</li> <li>- Project funding</li> <li>- Project legislation</li> <li>- Project promotion</li> <li>- Project monitoring and evaluation</li> <li>- Project knowledge transfer, research</li> </ul> </li> <li>- Highway safety management</li> <li>- Highway safety standards and guidelines</li> <li>- Highway safety audit</li> <li>- Highway safety assessment</li> <li>- Data systems supporting highway safety engineering and planning</li> </ul>
Department of Transport	<ul style="list-style-type: none"> <li>- Road safety legislation</li> <li>- Road safety enforcement</li> <li>- Road safety reporting</li> <li>- Driver licensing and penalty points</li> <li>- Vehicle registration and inspection</li> <li>- Heavy vehicle overloading</li> <li>- Carriage of hazardous goods</li> <li>- Vehicle safety policy</li> <li>- Professional driver training</li> <li>- Road safety information</li> <li>- Road safety research</li> </ul>
Home Department	<ul style="list-style-type: none"> <li>- Crash reporting and data systems</li> <li>- Road safety legislation</li> <li>- Road safety enforcement</li> <li>- Road safety reporting</li> </ul>
Health Department	<ul style="list-style-type: none"> <li>- Emergency response and treatment</li> <li>- Injury control and prevention programs</li> <li>- Road fatality and injury data surveillance</li> <li>- Road safety promotion campaigns</li> </ul>
Education Department	<ul style="list-style-type: none"> <li>- School road safety education</li> <li>- School bus safety</li> <li>- Safe school management systems</li> <li>- Road safety promotion campaigns</li> </ul>
Urban Development	<ul style="list-style-type: none"> <li>- Land use/transportation planning</li> <li>- Public transport</li> <li>- Urban road design standards</li> </ul>

**APPENDIX 5.****Project Component 2: Multi-sectoral interventions in demonstration corridor(s)**

Several options for the multi-sectoral interventions in targeted demonstration corridors are specified below with recommendations for the proportional share of the budget. Depending on the sections(s) selected there may be trade-offs between engineering the safety of the corridor or implementing combined enforcement or publicity or a implementing a combination or both. The totals for enforcement and engineering are thus tentative and will depend on the final project design.

- Traffic safety enforcement

Enhanced traffic enforcement campaigns can be designed and implemented in the demonstration corridor(s) to develop more effective general deterrence-based measures to achieve improved compliance with vehicle and road user standards and rules. Measures will include:

- speed management (with a special focus on pedestrian safety) through appropriate devices (such as radar, speed cameras, point to point cameras, etc.)
- alcohol testing
- occupant restraints
- motorcycle helmets
- heavy vehicle safety regulations (especially lighting, overloading, driver fatigue, speeding)

This may present an opportunity for piloting of a specially trained and equipped State Highway Patrol.

- Social marketing campaigns

Social marketing campaigns to improve traffic safety awareness and compliance with safety standards and rules will be designed and implemented to support the enhanced traffic enforcement in the demonstration corridors and areas. These campaigns will target all relevant parties and use all appropriate media, taking into account local literacy levels and language needs. Media will include local television, radio, newspapers, billboards and posters. Opportunities will also be found to use local cultural events and outlets to disseminate key messages and funding will be made available to support related community development initiatives.

- Infrastructure safety

The systematic iRAP safety inspection of demonstration highways and urban sections will identify priorities for cost-effective *Safe System* engineering investment. It is likely that this will include facilities and treatments targeting the safety problems of vulnerable road users, dangerous mixed use in linear villages, roadside hazards and road junctions. Possible treatments might include:

- intersection safety improvements
- improved pedestrian crossing treatments in built up areas or where pedestrian flows are high, with platforms, transverse rumble strips on approaches, advance warning signage, line-marking and street lighting

- footpath provision along narrow higher risk sections of road outside the major urban centers where pedestrian volumes are high
- median treatments to separate traffic, refuges for crossing pedestrians, etc
- speed management
- roadside treatments
- school speed zones (lower speed limits – 20km/h) with associated road markings and signage
- roadside amenities for road users such as rest areas, truck lay bys etc.
- provision for bus stops and safe boarding and alighting

○ Post-crash safety

It is proposed that enhanced post-crash safety services be designed and implemented in the demonstration corridors and areas to improve the survivability of road crash victims and their longer-term recovery prospects. These services are likely to include:

- first responder training programs for those aside from local health workers most likely to attend crash scenes (e.g. taxi drivers, local business people and traffic police),
- emergency response systems
- the establishment of trauma registries
- computerized road traffic injury monitoring systems in health facilities

○ Monitoring and evaluation

Systematic monitoring and evaluation procedures will need to be designed and developed to assess safety performance in the demonstration corridor(s). Performance measures should take the form of final outcomes, intermediate outcomes and outputs, as presented in the examples in Table 7.

**APPENDIX 6****DRAFT TOR'S FOR THE DEMONSTRATION PROJECTS POTENTIAL SUPPORT****PREPARATION OF GUJARAT SAFER CORRIDOR DEMONSTRATION PROGRAM UNDER GSHP-II**

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**A. PROJECT BACKGROUND AND OBJECTIVES**

The World Bank and the Government of Gujarat agreed to review the road safety situation in Gujarat and a road safety management capacity review (RSMCR) involving World Bank experts and the senior management of the responsible governmental agencies for road safety in Gujarat was conducted during October 2011.

The RSMCR was provided by the World Bank Global Road Safety Facility, supported by the Road Safety in Ten Countries (RS10) Program that is funded by Bloomberg Philanthropies. The review has been aligned with the World Bank's preparation of the Second Gujarat State Highway Project (GSHP-II) in association with the Roads and Building Department which will include a road safety component.

The purpose of the review was to reach agreement on an operational framework of a GSHP-II road safety component which would help to establish a robust road safety management system aimed at bringing Gujarat's challenging road safety outcomes under control.

Key findings of the review and recommendations for the road safety project component were set out in an Interim Report (21.12.11) which was forwarded to the Gujarat agencies. These were discussed and a broad-based consensus in support of the findings and recommendations was achieved in a road safety workshop in Gujarat in February 2012 and in subsequent meetings. Against the background of an unsuccessful recent attempt to put a State plan into place agencies acknowledged the need for pragmatic next steps. Agencies indicated their support for creating a road safety component which, with the help of international mentoring and national assistance, could simultaneously implement best practice multi-sectoral interventions in identified high-risk corridors, assist with State road safety policy development priorities, and strengthen related institutional management delivery capacity in identified areas across agencies.

It was agreed that the road safety project under GSHP-II will consist of the following components:

- A fully resourced project steering committee to lead and manage components 2,3 and 4
- Multi-sectoral interventions in targeted high-risk, high-volume demonstration corridor(s)
- Conduct of a formal review of existing institutional arrangements and recommend preferred options for a State Lead Agency role
- Policy reviews of agreed road safety priorities, e.g. amongst topics of driver standards, heavy commercial vehicle safety, safe infrastructure design, deterrent policing and penalty frameworks and vehicle safety.

The GoG formed a Project Steering Committee which held its first meeting on July 2, 2012. The Project Steering Committee consists of Secretary/Principal Secretary of the R & B, Transport, Home and Education Departments. A working Group was also formed whose members represent the Project Steering Committee Departments. The meeting resulted in a request to R & B Department to discuss separately with each department of the project steering committee, come up with an action plan and report back to the Committee.

**B. SCOPE OF WORK**

The scope of work (in this Stage 1 T/A activity) is to consist of the following:

1. Assist each Department represented on the Working Group to identify a plan of interventions for the Safe Corridor Demonstration Program. The application of this support is to include the following key activity areas:
  - Infrastructure safety measures,
  - Social Campaigns content,
  - Police enforcement preparedness,
  - Transport Officer enforcement preparedness
  - Education preparedness for schools,
  - Health preparedness for post crash care in corridor
  
2. The work will also include drafting the TOR for any necessary further T/A for Stage 2 - detailed preparation of the interventions (within some 5 months of this initial T/A) – especially for:
  - Police enforcement training and equipment procurement;
  - Transport Officer training and equipment procurement;
  - Training of Police in crash investigation activity;
  - Training of Police and R and B Department staff in the new road safety cell (to be established in each Department and the officers in the existing Transport road safety cell;
  - advice to the Department of Education about: curriculum materials for road safety education of school children; briefing of teachers; briefing of school communities and reaching agreement in the PWG and with Education department for measures to be applied to achieve the safer movement of children to/ from (and in the vicinity of) schools
  - Public campaigns planning and content advice; review of road user information materials to be developed by Transport; Agreed campaign and information delivery methods
  - Review of R and B Department preliminary designs for the proposed infrastructure safety works and proposals for the traffic management provisions for the works areas;
  - Review of bus schedules with Transport in the demonstration area to reduce incentives for speeding and unsafe overtaking and
  - Preparation of further TOR's for T/A during the Stage 2 advice activity - for the proposed Stage 3 activity, the final review of - and advice about - the demonstration project implementation within a further 6 or so months.
  
- Note: The subsequent Stage 3 activity is likely to require advice and support for the following:
  - Final training in enforcement activity and equipment use for Police and Transport officers;
  - Further training in police crash investigation activity
  - Review proposed public road safety campaign materials, delivery options and timing of activity;
  - Final review of proposed road user information materials to be distributed and
  - Review of proposed Education Department road safety actions and materials for school communities.
  
3. Assist the Working Group in developing detailed implementation, procurement and monitoring & evaluation plans for the Safe Corridor Demonstration Program taking into consideration each Department's plan.
  
4. Assist the Project Steering Committee and the Working Group to develop a brief TOR for their overseeing and delivery of Stages 1, 2 and 3 of the Project as well as the operation of the

demonstration project. This will also include identifying suitable opportunities for inter-agency coordination and for twinning with other agencies nationally and internationally to share experience and enhance knowledge about road safety management.

#### **10. DELIVERABLES/SPECIFIC OUTPUTS EXPECTED FROM CONSULTANT**

The deliverables consist of the following:

1. A Safe Corridor Demonstration Program document containing the following:
  - Detailed multi-departments interventions implementation Plan
  - Procurement Plan
  - Monitoring & Evaluation Plan
2. TOR's for the Project Steering Committee and Working Group as it relates to the preparation, implementation and supervision of the Safe Corridor Demonstration Program, (Stages 1, 2 and 3 and the full operating and evaluation stages.)
3. Drafting the TOR's for the necessary T/A for Stage 2 as outlined above and as confirmed by discussions and agreement with the Project Steering Committee.

The consultant should work with all Departments represented on the Working Group and report back to the Project Steering Committee. He/She should take into consideration the comments of the Project Steering Committee members before finalizing the deliverables. His/her day to day work and coordination of activities will be managed by R & B Department.

#### **11. SPECIFIC INPUTS TO BE PRESENTED BY THE CLIENT**

The World Bank will facilitate contact with R & B Department and assist in making travel arrangements to Gujarat. It is expected that 35 days will be needed to complete this work.

#### **12. SPECIAL TERMS & CONDITIONS / SPECIFIC CRITERIA**


The consultant should have at least 15 years of working experience in coordinating the development and implementation of multi-sectoral road safety interventions. He/She should have working experience across various State Government Departments, preferably in Indian context.

ANNEX 7.

PRESENTATIONS TO GoG TRANSPORT DEPARTMENT REPRESENTATIVES ON MONDAY FEBRUARY 18, 2013.

(a) EH Victorian GLS February 16, 2013: See separate pdf file


 THE WORLD BANK  
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 vic roads

## Road Safety: Novice driver issues, GLS and Driving Instruction

Eric Howard  
Whiting Moyne

February 2013



(b) Logistics for Licensing, Dept. of Transport, GoG February 18, 2013: See separate pdf file

**Presentation on Driver Licensing and  
Vehicle Registration Logistics: Victoria,  
Australia  
to  
Government of Gujarat: Transport  
Department**

**February 18, 2013**

Eric Howard  
Whiting Moyne P/L

