

## PART – II (EXTRACTION OF SPACE)

The improperly parked vehicles not only add to congestion on road but also play direct/indirect role in causing an accident. Thus, there is need to extract road space from these unnecessarily parked vehicles:

- This can be done by making an efficient **policy for disposal of old vehicles** in which the state transport authorities can **collect/call and scrap the over 10 years (diesel), and over 15 years (petrol) vehicles from the willing owners**. This will not only guide the people about method of disposal of old vehicles, but also it will make space available on the roads and in other parking areas. As the **figures of these vehicles is around 25 lakhs just for Delhi registered vehicles**.
- This will help in **reducing accidents and**

**also reduce pollution.**

- Inviting the **private participation in making the multilevel (underground/ Terrace) parking** spaces in highly congested residential and market places and allowing the parking rent/parking fee to be collected by the owning agency of the parking lot at the fixed/regulated rate.  
Later making legislation for not allowing to park on road or taxing the vehicles parked on road.
- **Parking policy for the city under formulation needs to be implemented with vigour.**
- Parking in the central business districts needs to be disincentive.

## PART – III (USE OF TECHNOLOGY)

In the digital world a lot many things are possible a lot more easily once our data is in digitized form. There is urgent need of digitization and integration of all the vehicular as well as driving license records data at all the authorities. Law enforcement needs to access and National level databases mentioned by NIC namely Sarthi and Vahan.

- The vehicle and the driver both are free to move anywhere in India hence can be involved in traffic violation or an accident anywhere in India. **This data should be centrally maintained and can be accessed by officials from anywhere in India to ascertain the previous traffic violation and conviction in accidents.**
- **The Driving License data needs to be linked to the Adhaar Card to remove the duplicity.** It is found that the drivers are using more than one D/L issued from different authorities and their previous violations and involvement in accidents

cannot be established.

- The road accident cases are registered U/S 279 IPC i.e. due to rash and negligent driving by the driver. Similarly, the entire driver related violation e.g. red light jumping, dangerous driving, drunken driving, stop line violation etc. are committed by the driver. The causes of accident in more than 77% cases are determined to be driver's fault.
- **The policy needs to be formulated to send the conviction reports from the courts directly to the concerned transport authority to update the driving license record.** So that appropriate action regarding suspension etc can be taken, particularly in case of repeated offence/violations.
- **Similarly all the digital data of driver related traffic violation like red light jumping, dangerous driving, drunken driving or driving with over-speed should be clubbed with the driving**

**license.** Wherever data is maintained in digital form it should be shared with the transport authority and clubbed with the centralized license record.

- **As the criminal data is maintained at NCRB, similarly all the data of drivers involvement, conviction and traffic violation should be maintained at the transport authority and to be clubbed with the license number.** Every involvement should be given appropriate negative points and the transport authority should take the appropriate action like suspension or cancellation of D/L accordingly immediately.
- **Cameras surveillance and ANPR/RLVD at all the major intersections with capacity to monitor roads, traffic and to prosecute the violators for offences like over speed/red light jump, stop line, lane discipline etc. can act as major deterrent to road violations.**
- **Inspection of roads for up gradation, repair, light conditions** etc can be done through cameras.

- **The link/feed of the camera for prosecution should be allowed access directly to the transport authorities, which can take appropriate action against vehicle owner** and communicate through GPS device/other vise and call the vehicle for prosecutions or other action like suspension of permit etc and also suspension/ cancellation of driving license etc.
- **Fixing of GPS device with display screen or RF Tags may be made compulsory in all the commercial vehicle.** This device will be help in:
  - (i) Checking the speed of vehicle.
  - (ii) Checking entry conditions on roads.
  - (iii) Identifying the vehicle involved in accidents/crime.
  - (iv) It can act as medium to provide information to the user vehicle regarding entry condition/speed warning, jam condition and also his prosecution details.

## PART – IV (IMPROVING ROAD CONDITION)

Road design, road environment, road marking and road furniture are important for facilitation of road users and smooth and safe flow of traffic. While the road design and environment assist the driver in safely moving the vehicle on road; the road sign, road marking and road furniture, if properly placed, helps in preventing the accidents

and reducing the severity of accidents.

Thus, these measures should be given due importance. Unfortunately, most of our roads (except in NDMC area) score poorly for these primary features of roads. All major arterial roads should be surveyed for following improvements that can be done to make roads safer:



2. **Fixing reflectors** at start of all the dividers.



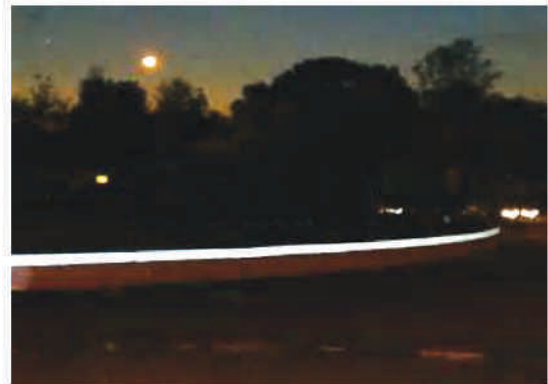
3. **Marking lane with reflective paints** on all the roads.



4. Fixing of cats eye on these lane marking as well as on the sides of the road.
5. The road markings (lanes and stop lines etc.) should be repainted after

regular intervals (say three months or six months).

6. Reflectors/reflective paints on side railing, poles, and trees of road.



7. **Providing side protection/railing** especially on **bandh roads** or roads along with drains/canals etc.



8. **Road markings are helpful in changing the lane in advance to avoid the conflict** near the bifurcation point. Eg. For loops near Dhaula kuan or AIIMS.



9. **Illumination of roads should to be given importance particularly in outer and rural areas.** Many stretches of NHs, Outer Ring Road and other arterial roads remain dark and become the cause of accident. This now ~~here~~ gets pointed out.

Illumination is important in preventing pedestrian and cyclist accidents.

10. **Cautionary sign** to be fixed well before schools, speed calmers, cuts in divider merging/diverging.



11. **Appropriate speed calming measures** to be made as per the requirement of the road.



12. **Pseudo speed breakers before intersections, left turn start of divider or nose of flyover, at place of merging traffic** be provided.

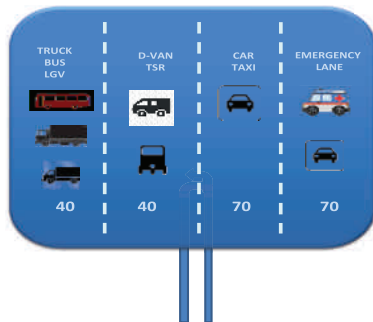


13. Unnecessary cuts on road medians should be identified and closed.
14. The merging of minor roads, having movements of two wheeler and slow moving vehicles should be studied and planned to avoid direct merging into highways and other major roads.
15. **Planning of intersections needs to be done as per the composition of the vehicular movement** for eg. at Shastri park red light importance is to be given to the slow moving vehicles and movement of the cycles, cycle rickshaws. Experts can be involved for the segregated safe movement of these vehicles.
16. Slow moving vehicles and two wheelers prefer to move in shorter wrong direction to cross the road if 'U' turn or the proper road crossing passage is a far away (more than a km.)
- For eg. as on NH-1 for vehicles coming on Sanjay Gandhi Transport Nagar, on Rangpuri on NH-8 and many cuts near Nangloi on NH-10. Such **facility can be provided by making underpass or providing service roads.**
17. All the major intersection should be **made of a little elevated with roughened surface to slow down vehicles** at intersection.
18. Besides **these roads can be improved by fixing overhead boards on NHs** and major (six/eight lane roads) showing **speed limit and vehicle permitted in that lane.**



19. Also these boards should be fixed on the central verge a distance at each km.

ALSO BOARDS ON **CENTRAL VERGE AT EVERY KM**  
TO REMIND AND CREATE IMPACT.



20. **The repair and construction work on road and road side should be well protected** with sufficient sign boards, reflectors, illuminators and appropriate number of volunteers to be deployed for managing traffic.
21. There should be **strict time limit for these repair work** and relaying of roads by the repairing authority should be a made essential. It is found that many road owning as well as other agencies like Jal board, sewer repair units, leave the roads inlaid even after completion of work.
22. **There should be coordination between different agencies which dig the road or road side** for fixing pipes (water, sewer or gas), laying cables or repairing or upgrading footpath or divider etc. All the repairing **should be done with one time**

**or minimum digging.** It has been found that hardly few months after the first agency has finished its work, the other agency digs the road. And people using the road continue to suffer again and again.

23. Quick repair of pot holes on the roads.
24. **Repairing/re-fixing of worn out** speed calming measures like mastics strip, rumble strips, pseudo breakers and fixing of cats eye should be done at regular intervals as in around six months these gets worn out and becomes ineffective.
25. **Anti-Glare Screens:** Anti-glare screens should be provided on the top of the median throughout the length of the Flyover for cutting the glare of the headlights of the vehicles.



**Typical Installation of Anti-Glare Screens on the Median**

26. **Cleaning of Pavement and Repainting of Road Markings:** Periodic cleaning of the pavement on the deck of the flyover is required in order not to let the dust, sand or other granular materials accumulate on it. Also, repainting of all the Road Edge Markings, Centre Line Markings and Chevron Markings in the gore areas are required.

27. **Better Delineation of Road Edges:** Provision of road studs and clamp-type delineators throughout the length of the flyover is highly recommended. It is also recommended to periodically clean and/or repaint the crash barriers and median regularly in order to aid in better delineation of the road edges.

28. **Road Edge Delineators with Guide Posts:** The Guide Posts with Delineators shall be installed at a distance of 50 mm from the edge line. Constant distance should be maintained between the guide posts and the pavement edge on a section. For longitudinal spacing requirements, Section 5 or IRC:35-2015 should be followed.



Solar Delineator with Guide Posts and their Typical Installation

29. **Road Edge Delineators on Guard Rails:** These delineators shall be clamped on the guard rails wherever they are provided as shown in below. For longitudinal spacing requirements, Section 5 of IRC:35-2015 should be followed.



Solar Delineator (Clamp-Type) with Typical Installation

30. **Crash Cushions:** They are to be installed as nose protection measures at designated places to serve the dual purpose of road delineation (through chevron sheeting provided on the cylinder portion) as well as to attenuate the impact of a crash on vehicles. Their typical installation is shown below. They are required at all the diverging points on the flyover.



Typical Installation of Crash Cushions at the Gore Area

31. **Public conveniences with parking facility should be provided on both sides of NHs** and on all major roads to deter people to park their vehicles road only or road where can cause conjunction and accidents. Similarly, dustbin should be provided at visible spots on main roads to stop people littering of empty water bottles and waste/packaging of food and eatables, which can cause accidents when thrown on road from moving cars or buses.
32. Regular survey of road by road maintaining agency for improvement and

- repair on above mentioned points to be done.
33. Website/facebook/mobile app to be used to receive public complaints and suggestions.
  34. Area incharge of road maintaining agency to be made responsible for keeping the road standards up to the mark.
  35. Yearly road safety audit to be done on all major roads.

## PART – V (LEGISLATION AND CHANGE OF POLICY)

### The Motor Vehicles (Amendment) Bill, 2016 (Bill Summary)

- The Motor Vehicles (Amendment) Bill, 2016 was introduced in Lok Sabha on August 9, 2016 by the Minister of Road Transport and Highways, Mr. Nitin Gadkari. The Bill seeks to amend the Motor Vehicles Act, 1988. The Act provides for standards for motor vehicles, grant of driving licenses, and penalties for violation of these provisions.
- **National Transportation Policy:** The Bill requires the central government to develop a National Transportation Policy, in consultation with the states. The Policy will: (i) establish a planning framework for road transport, (ii) develop a framework for grant of permits and schemes, and (iii) identify and specify priorities for the road transport system.
- **Recall of vehicles:** The Bill allows the central government to order for recall of motor vehicles if a defect in the vehicle may cause damage to the environment, or the driver, or other road users. Vehicles may also be recalled if defects in a vehicle are reported to the central government. The manufacturer will have to (i) reimburse the buyers for the full cost of the vehicle, or (ii) replace the defective vehicle with another vehicle with similar or better specifications.
- **Compulsory insurance:** The Bill requires the central government to constitute a Motor Vehicle Accident Fund. The Fund will provide compulsory insurance cover to all road users in India. The Fund will be credited with: (i) a cess or tax as approved by the central government, (ii) a grant or loan made by the central government, or (iii) any other source as prescribed the central government. It will be managed by an authority specified by the central government.
- **Care for road accident victims:** The central government will develop a scheme for cashless treatment of road accident victims during golden hour. The Bill defines golden hour as the time period of up to an hour following a traumatic injury, during which the likelihood of preventing death through prompt medical care is the highest. The Bill also increases the compensation for death in a hit and run case from Rs 25,000 to Rs two lakh or more, as prescribed by the central government.
- **Protection of good Samaritans:** The Bill defines a good Samaritan as a person who renders emergency medical or non-medical assistance to a victim at the scene of an accident. The assistance

must have been (i) in good faith, (ii) voluntary, and (iii) without the expectation of any reward. Such a person will not be liable for any civil or criminal action for any injury to or death of an accident victim. The central government may, through rules, provide for procedures related to their questioning or disclosure of personal information.

- **Aggregator services:** The Bill defines an aggregator as a digital intermediary or market place. The aggregator's services may be used by a passenger to connect with a driver for transportation purposes. The Bill requires these aggregators to obtain licenses. The aggregators will also be required to comply with the Information Technology Act, 2000.
- **Electronic services:** The Bill provides for the computerization of certain services. These include: (i) issue or grant of licenses or permits, (ii) filing of forms or applications (such as for licenses and registration), (iii) receipt of money (such as fines), and (iv) change of address. The state government must ensure electronic monitoring and enforcement of road safety on national highways, state highways and urban roads. The central government will make rules for such monitoring.
- **Offences and penalties:** The Bill increases the penalties for several offences under the Act. For example, the maximum penalty for driving under the influence of alcohol or drugs has been increased from Rs 2,000 to Rs 10,000. If a motor vehicle manufacturer fails to comply with construction or maintenance standards of motor vehicles, the penalty may be a fine of up to Rs 100 crore, or imprisonment up to one year, or both.
- The Bill also recognizes offences committed by juveniles. In such cases the guardian of the juvenile or owner of the motor vehicle will be liable unless they prove that: (i) the offence was committed without their knowledge, or (ii) they exercised all due diligence to prevent commission of the offence.
- **Transportation schemes:** The Bill requires state governments to make transportation schemes that provide for certain objectives. These may include: (i) last mile connectivity, (ii) reducing traffic congestion, and (iii) safety of road users. The state may also make rules for regulating activities in public places, and non-motorized transport (bicycles, cycle rickshaws).
- **Miscellaneous:** The Bill also amends certain provisions on the issue, validity, and renewals of driving licenses.

# SNAPSHOT OF EXISTING & PROPOSED ROAD SAFETY LEGISLATIVE FRAMEWORK FOR INDIA

INSTITUTIONAL FRAMEWORK		
	Existing	Proposed
<b>Lead Agency</b>		
National Authority for Road Safety	No	Yes
National Transport & Multimodal Coordination Authority	No	Yes
State Transport Authority	No	Yes
<b>National road safety strategy</b>	<b>Yes</b>	<b>Yes</b>
Funding strategy to implement programs	Partially funded	Dedicated Fund
Fatality reduction targets set	No	Yes
Fatality reduction target (annual)	No	20%

SAFER MOBILITY		
	Existing	Proposed
<b>Policies to promote walking or cycling</b>	Yes	Yes
<b>Policies to encourage investment in public transport</b>	Yes	Yes
<b>Policies to separate road users to protect vulnerable road users</b>	Subnational	Subnational

SAFER & MORE EFFICIENT VEHICLES		
	Existing	Proposed
<b>Vehicle standards</b>		
New car assessment programme	Yes	Yes
Roadworthiness tests for all cars and two wheelers every five years	No	Yes
<b>Vehicle regulations</b>		
Time-bound vehicle type certification	Partial	Full
Vehicle categories of trailer, semi-trailer	No	Yes
Conformity certification of vehicle spare parts	No	Yes
Front and rear seat-belts required in all new cars	No	Yes
<b>Vehicle registration</b>		
Unified vehicle registration system	No	Yes
Registration linked with insurance, vehicle offences, and fitness	No	Yes
Private participation in vehicle fitness testing	No	Yes
<b>Provision for recall of vehicles</b>	No	Yes

SAFER & MORE EFFICIENT INFRASTRUCTURE		
	Existing	Proposed
<b>Transit infrastructure</b>		
Transit priority	No	Yes
Impetus for BRT & intra-city transport	No	Yes
Multimodal integration	No	Yes
Provisions for NMT & pedestrian bicycle infrastructure	No	Yes
Emphasis on safety of school children/women/Persons with disability	No	Yes
Rationalization of public transport permits	No	Yes
<b>Road infrastructure</b>		
Standards & guidelines for road infrastructure development, classification, design & construction	No	Yes
Formal audits required for new road construction	Yes	Yes
<b>Logistics</b>		
Framework for preventing overloading	No	Yes
Provision for better planning & development of freight network	No	Yes
Provision for Integrated Freight Transport Hubs and inter-modal transport facilities	No	Yes
<b>Monitoring &amp; Evaluation system for monitoring performance targets</b>	No	Yes

SAFER ROAD USERS		
	Existing	Proposed
<b>Driver licensing</b>		
Unified driver licensing system	No	Yes
Automated driver licensing test	No	Yes
Private participation in driver assessments	No	Yes
<b>Penalty/demerit point system in place</b>		
License penalty points scheme	No	Yes
Strict penalties for offences involving children	No	Yes
Detailed impairment test for drunk driving	No	Yes
Law prohibits hand-held mobile phone use	--	Yes
Law also applies to hands-free mobile phones	--	Yes
<b>Speed limits</b>		
Speed limits posted on all roads	No	Yes
Local authorities can set lower limits	Yes	Yes
<b>Drunk-driving</b>		
BAC limit	0.03 g/dl	0.03 g/dl
Random breath testing and/or police checkpoints	Yes	Yes
<b>Motorcycle helmets</b>		
Applies to all drivers and passengers	Subnational	Yes
Helmet standard mandated	Yes	Yes
<b>Seat-belt use</b>		
Applies to front and rear seat occupants	Yes	Yes
<b>Child restraints</b>		
Child restraints, child zones, child helmets, and adult accountability	No	Yes
<b>Enforcement</b>		
Use of technology in compliance	Partial	Full
National Highway Traffic Regulation & Protection Force	No	Yes
Automated enforcement systems for all urban clusters	No	Yes

POST-CRASH CARE		
	Existing	Proposed
<b>Vital registration system</b>	Yes	Yes
<b>Standard post-crash follow-up of victims</b>	No	Yes
<b>Emergency access telephone number(s)</b>	Multiple numbers	Single number (expected)
<b>Emergency medicine training for doctors</b>	Yes	Yes
<b>Emergency medicine training for nurses</b>	Yes	Yes
<b>Emergency training for paramedics</b>	No	Yes (expected)

INSURANCE AND ACCIDENT INVESTIGATION		
	Existing	Proposed
<b>Insurance</b>		
Requirement of insurance companies to comply with policies, procedures for investigation, and settlement of claims	No	Yes
Provision of cashless treatment for victims of all accidents during "Golden Hour"	No	Yes
Necessity for third-party insurance	Partial	Full
Motor accident fund to provide mandatory insurance to all road users	No	Yes
<b>Accident investigation</b>		
Standard crash investigation procedure	No	Yes
Detailed accident investigation report	Partial	Yes
Database of all drivers, vehicles and accidents	Partial	Full