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Management Technology Enablers as Commuters

Vision for Road Safety and Commuter Health (2025 roadmap)

A. Background

India is developing into a country that has SMART Cities and in the future may be even one with SMART States.

The term SMART refers to the sustainable and innovative focus given for solving problems and crisis situations of people living in a city or village.

One of the most important components is Commuting and Commuter Health. Today we are in the midst of different problems like pollution, traffic congestion, poor traffic management due to lack of infrastructure to manage increasing number of commuters, vehicles, old or bad road systems, lawlessness and even terror attacks.

B. Veritable commuting

The need for any commuter is veritable (that is safe, secure and sustainable commuting), where there is reliable utilization (of a road system, where there are level crossings or a metro rail network), traffic management, pollution level control, disaster management and emergency response.

Veritable commuting associates a vision with commuting that is symbolic – A chariot driven by a guide (representing consciousness that is divine), The description of the chariot being that different veritable systems are the bridle, new self-organization using a (Commuter) Road Safety Desk being the charioteer and Commuter goodwill being the God-driven intellect.

The Regional Transport Office is already known to refer to its processes and data management by symbolic names like Sarathi, Vaahan etc.

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C. Reckoning

This reckoner states that a NSSR RS Programme or Help Commute Track can help implement veritable commuting, where a General Theory of Relativity designs a foundation for sustainable traffic management. This theory of relativity is based on 5 self-organization factors such as identification, configuration, management, optimization or healing and incorporation of veritable systems.

In the 2025 roadmap of the NSSR RS Programme or Help Commute Track, the solution for transportation will focus on road systems.

The second milestone will focus on metro rail networks and the third milestone will focus on railway networks.

1. Here identification relates to identifying the commuter and his or her vehicle (whether a private vehicle, public transport vehicle, commercial transport vehicle, ambulance or any other special needs vehicle). Refer to the Road Safety website for more information.

2. Configuration relates to the process of defining information that is important for the Road Safety Desk or Commuter Desk infrastructure. Refer to the document called “SMART Ward Field Book” for more details.

3. Management relates to using the Road Safety Desk or Commuter Desk infrastructure to manage commuter lifecycles and experiences. This is still a proposal and needs approval for further implementation.

4. Optimization or healing refers to managing Lifespan Dynamics and Commuter Health. This is still a proposal and needs approval for further implementation.

5. Incorporation of veritable systems involves the planning, development and converging on a Road Safety Desk or Commuter Desk infrastructure that consists of Road system veritability, Traffic Guidance, Pollution Level Control, Disaster Management and Emergency Response. This is still a proposal and needs approval for further implementation.

All the documents being referred to are part of the NSSR RS Programme. You can ask for more details if the subject is of interest.

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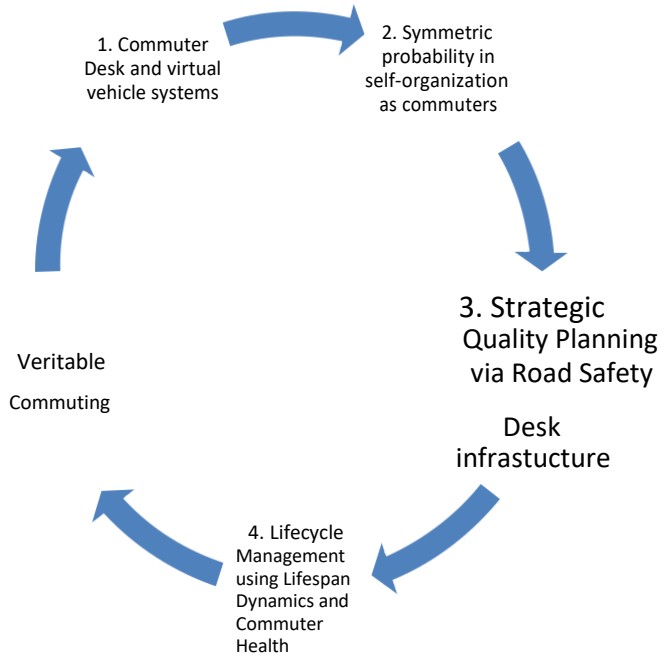

Level Crossings
Details for nearby or on-route level crossings (in-detail explanations in separate section)

( ) Key-site management practices are reliable

Details of plan behind the level crossings, rail tracks and associated road system

( ) Design standards compliance (for width of road, margins for pillars, gradient designs, curves designs, arboriculture safety, shortening of distance between 2 points, shortening of time taken to travel from one point to another)

( )Traffic factors reliable for road system (speed standards set for road systems, reaction time based on PIEV*, navigation standards, safe stopping sight distance, safe overtaking or passing, safe sight distance for entry into any associated intersections)

( ) **Associated Environment factors have been considered** (risk mitigation for unforeseen snow fall, hailstorms, heavy rainfall, thunder storm and lightning arrestors, ease of maintenance despite severe weather conditions)

( ) Maintenance systems reliability (proper design out maintenance, track structure and component risk mitigation &maintenance, inspection and maintenance of extensions, gradient-design validation, policy for emergency services, policy for disaster management services)

( ) Drainage systems performance (design and implementation after consideration of water table, sub-grade soil, reinforced earth, nature of geo-grids that are to be used in the road construction, management of seepage flow & capillary rise, reliable impervious wearing surface of road with aggregators and binders)

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( ) Signaling systems used in the metro rail that passes over the road (Work in progress "(Google Earth related) satellite imagery, or drone flight imagery based or sentinel sensors based Road Safety Desk or Commuter Desk notifications and proactive responses by the level crossing or nearest railway station network or by nature of design "intelligent interlocking and track circuiting signaling solutions" can decide as to what can happen in case there is a systems failure, or in a case where part of the track is rendered unusable)

( ) Availability of emergency response services

Details: For example "Equipped with first aid provisions/Has clearance for air lift/Equipped with fire extinguishers/Equipped with smoke alarm systems/Equipped with sentinel sensors" with added details

( ) Afflicted due to weather forecasts

Details: For example "Harsh weather conditions, high ambient temperatures, poor quality of air, low visibility levels, high speed wind velocity, heavy rainfall leading to flood like situations, water logging, overflowing of sewage drains" with added details

( ) RADIUS of Focal synergy related Vital network and signal coverage

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Details: For example "Normal Route Management connectivity/Failing Route Management connectivity/ Problematic Route Management connectivity/ Normal Emergency Response connectivity/ Failing Emergency Response connectivity/ Problematic Emergency Response connectivity/ Good quality signal strength reported for most mobile services/Complaints recorded for most mobile services/ Poor quality signal strength due to weather forecasts" with added details

( ) Vehicle indicators

Details: For example "Normal for level crossing configuration/ Problematic for level crossing configuration/ Problematic for unmapped level crossing configuration/ Complaints recorded for level crossing configuration" with added details

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Level crossing configuration

Design or types of Level Crossing Protection

- **Automatic Level Crossings** known to be fully automated systems with barriers and warnings that operate without human intervention.
- **Manned Level Crossings** where an attendant manually operates the barriers and signals to control traffic flow.
- **Unmanned Level Crossings** where these crossings may have passive warning signs and rely on road users to exercise caution, although some may have basic warning devices.

Line icon indicators for the level crossing

- Notify Violations
- Notify abuse or harassment
- Notify social interference
- Notify Commuter Quarrels
- Notify theft, trafficking, substance abuse
- Notify System failures, defective fittings and operations
- Notify Safety concerns

Emergency Response and Disaster Management

[ ] Emergency Response or Disaster Management sirens and dedicated communication systems

[ ] Fire-fighting facilities

[ ] Backup DC electricity supply (for on-board systems and at level crossings)

[ ] Level crossing screening (drone-flight images, sensors, CCTV networks)

[ ] Rail track screening (inherent systems, drone-flight images, CCTV networks)

[ ] RADIUS of Focal Synergy related Vital network and signal coverage

[ ] Emergency evacuation services (for level crossings, when there is a system failure, or when there can be problems noticed in the train detection systems, or in the automatic barriers to block road traffic, or in the signals (lights and bells) to alert road users or in the Obstruction detectors or when there can be problems related to the tracks rendering them unusable)

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Overhead Metro Reports

Details for nearby or on-route stations (in-detail explanations in separate section)

( ) Key-site management practices are reliable

Details of plan behind elevated metro rail tracks and associated road system

( ) Design standards complaint (for width of road, margins for pillars, gradient designs, curves designs, arboriculture safety, shortening of distance between 2 points, shortening of time taken to travel from one point to another)

( )Traffic factors reliable for road system (speed standards set for road systems, reaction time based on PIEV*, navigation standards, safe stopping sight distance, safe overtaking or passing, safe sight distance for entry into any associated intersections)

( ) **Associated Environment factors have been considered** (risk mitigation for unforeseen snow fall, hailstorms, heavy rainfall, thunder storm and lightning arrestors, ease of maintenance despite severe weather conditions)

( ) Maintenance systems reliability (proper design out maintenance, track structure and component risk mitigation &maintenance, inspection and maintenance of extensions, gradient-design validation, policy for emergency services, policy for disaster management services)

( ) Drainage systems performance (design and implementation after consideration of water table, sub-grade soil, reinforced earth, nature of geo-grids that are to be used in the road construction, management of seepage flow & capillary rise, reliable impervious wearing surface of road with aggregators and binders)

( ) Signaling systems used in the metro rail that passes over the road (Work in progress "(Google Earth related) satellite imagery, or drone flight imagery based or sentinel sensors based" Commuter Desk notifications and proactive responses by the metro network or by nature of design "intelligent interlocking and track circuiting signaling solutions" can decide as to what can happen in case there is a systems failure, or in a case where part of the track is rendered unusable)

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( ) Availability of emergency response services

Details: For example “Equipped with first aid provisions/Has clearance for air lift/Equipped with fire extinguishers/Equipped with smoke alarm systems/Equipped with sentinel sensors” with added details

( ) Afflicted due to weather forecasts

Details: For example “Harsh weather conditions, high ambient temperatures, poor quality of air, low visibility levels, high speed wind velocity, heavy rainfall leading to flood like situations, water logging, overflowing of sewage drains” with added details

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Details: For example “Normal Route Management connectivity/Failing Route Management connectivity/ Problematic Route Management connectivity/ Normal Emergency Response connectivity/ Failing Emergency Response connectivity/ Problematic Emergency Response connectivity/ Good quality signal strength reported for most mobile services/Complaints recorded for most mobile services/ Poor quality signal strength due to weather forecasts” with added details

( ) Vehicle indicators

Details: For example “Normal for road system configuration/ Problematic for road system configuration/ Problematic for unmapped road system configuration/ Complaints recorded for road system configuration” with added details

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G. AOEC's toolkit offerings

You can ask for AOEC's NSSR RS programme to assess this vision for Road Safety and Commuter Health.

You can ask for more details by calling the consultant on +91 9342867666 or by emailing venkataoec@gmail.com

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APPENDIX

A. A Student's Commuter Experience (Metro rail)

The Student's Commuter Experience intrinsically focuses on the metro station experience, train cars related experience, policy for emergency response & disaster management and solutions for emergency evacuation.

This specification includes checklists whose conformity is considered vital and sustainable for any metro network.

A.1 Student's Commuter Experience at metro stations (Tick as applicable)

[ ] Escalators (and well-maintained stairways to elevated stations)

[ ] Guidance systems (Green Service Desk or Help Desk)

[ ] Assistance for the specially abled and aged

[ ] Security systems (Commuter scanners, baggage scanners …)

[ ] Surveillance and vigilance systems (mobile police or security squads, CCTV(s), SCADA systems)

[ ] Public Address Systems, information and warning systems (where considerations are given to the convenience of the visually or hearing impaired)

[ ] Well-maintained toilets, Special-category toilets

[ ] Clearance height of doors of train cabins or cars so as to permit entry or exit of wheel-chairs

[ ] Reliably-designed and well-maintained signaling and interlocking systems

[ ] Disaster Management and Emergency Response services

[ ] Breath analyzer tests for train operators

[ ] Parking area for commuters within close vicinity

[ ] Auto and taxi stands within close vicinity keeping in mind traffic congestion problems

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A.2 Student's Commuter Experience in train cars (Tick as applicable)

[ ] Door frame metal detectors (that ensure secure opening and closing of doors to avoid accidents with an override for incidences of emergencies)

[ ] CCTV feeds to control room

[ ] Handrails, handgrips and lock-ins for wheel chairs (provision for wheel-chair transportation along with dependent commuter)

[ ] First-aid amenities

[ ] Line icon indicators and warning systems (that use suitable icons, code of contact **synopsis** and dial me numbers for different negative experiences)

(On-board or at the station) **Line icon indicators for the metro rail could include**

+ Notify Violations

+ Notify abuse or harassment

+ Notify social interference

+ Notify Commuter Quarrels

+Notify commuter freedom limitations

+ Notify theft, trafficking, substance abuse

+ Notify System failures, defective fittings and operations

+ Notify Safety concerns

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A.3 Policy for Emergency Response and Disaster Management

[ ] Emergency Response or Disaster Management sirens and dedicated communication systems

[ ] Fire-fighting facilities

[ ] Backup DC electricity supply (for on-board systems and at stations)

[ ] Tunnel screening (drone-flight images, CCTV networks)

[ ] Metro-rail screening (inherent systems, drone-flight images, CCTV networks)

[ ] Vital network and signal coverage

[ ] Emergency evacuation services (for elevated metros, when there is a system failure, or when there can be problems noticed in the health of the viaducts, columns or pillars, or when there can be problems related to the tracks rendering them unusable)

Solutions for emergency evacuation services (for elevated metros)

[ ] Service vehicle assistance (if relevant via dedicated tracks)

[ ] Collapsible stairways and/or chutes to evacuate commuters into secure landing areas

[ ] Collapsible Floor Elevation or Height Escalation Systems (that are fabricated to reach spots such that a standing platform can be raised to a column height, so commuters can mount the same and thereon the platform be lowered to road top level)

[ ] Air-lift systems with clearances to conduct exercises at specific locations

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B. NSSR RS Desk or Help Desk

You can ask for AOEC's NSSR RS programme to assess this vision for Road Safety and Commuter Health.

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C. On-route NSSR RS Desk friendly Petroleum Stations or Outlets

Today the Customer Relationship Management (CRM) practices of Petroleum Stations, emerging EV charging infrastructure and connected Outlets can ramp up compliance and veritability for what is called as **Healthy Commuter Lifecycles and Lifespan Dynamics.**

This problem can be addressed by making these stations and outlets NSSR RS Desk or **Commuter Desk friendly**. This document does understand that stations and outlets are all part of a dealer network, where certain expectations need to be met to function as a dealer.

The specification enters into a gap analysis mode that can help all stations and outlets implement a Strategic Quality Plan that can mitigate pollution levels, commuter crisis, and a lack of universal **disaster management and emergency response.** This Strategic Quality Plan can help today's petroleum stations and networks to become Green NSSR Assets that can be rated for their CRM practices.

Today we may be able to provide quality level feedback or customer satisfaction feedback at these stations or outlets, but we cannot rate them with one CRM rating that applies across all networks and services.

The Service Quality Plan can be mandatorily introduced before registration, during license approval or renewal, interim evaluation or auditing, wherein a dealer designs **business infrastructure support** for a new **Service-oriented Architecture Pyramid**, that includes Pollution Level Control (PLC), Automobile On-road consultations (AOC), NSSR RS Desk or Commuter Desk Resources (CDR) and if possible a NSSR RS Desk or Commuter Desk friendly Outlet (termed as Outlet+).

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1. Pollution Level Control at the NSSR RS Desk or Commuter Desk friendly Stations

Enable re-fuelling or EV charging with offer on-road preventive maintenance services that help in ensuring basic good condition and mileage (like relevant to the vehicle, air pressure checkup, engine oil checkup, brake oil checkup, coolant level checkup, electric wiring and connector checkup, battery checkup, charging cable checkup, emission level checkup).

Enable accountability by **offering payment schemes** that help estimate consumption patterns or EV charging patterns.

Provide fuel savings checklists for a driver or owner (ICE vehicle mileage and emission level influencer for a student)

Do you idle your engine on a cold-start?

Do you ensure your engine's idling speed is right or get this addressed whenever you can?

Do you switch off your engine whenever not required or at halt times more than 1 minute?

Do you address problems like engine overheating as soon as you can?

Do you avoid changing gears often by speed control or by choosing right routes and lanes?

Do you immediately address any problem with the flow of fuel or the functioning of the carburetor in your vehicle as soon as you can?

Do you avoid using or switch off your vehicle's air-conditioner whenever you can?

Do you ask for recommendations from your service outlet for maintenance of good condition and mileage?

Provide checklists for trouble shooting the charging of the electric vehicle by

[ ] Checking the power supply for proper functioning

[ ] Examining the power cable for any damage or wear

[ ] Restarting the charging process from within the vehicle

[ ] Checking for error codes in the dashboard or at the charging station

[ ] Resetting the charging station to address communication issues

[ ] Consultation of the owners manual for guidance and trouble shooting of common issues

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Provide checklists for trouble shooting charger issues by

[ ] Checking charger compatibility

[ ] Checking for power supply issues

[ ] Checking the charging cable for damage or wear

[ ] Checking or properly configuring the charger settings

[ ] Checking battery health

[ ] Checking for charging station malfunctions

[ ] Consultation of the owners manual for guidance and trouble shooting of common issues

[ ] Checking for temperature conditions and range

Ensure EV Risks are known

[ ] EV risks include Electric hazards like electric shocks and burns if mishandled

[ ] EV batteries can explode or catch fire if damaged or mishandled

[ ] EV batteries contain toxic and inflammable chemicals like lithium, cobalt etc
that can cause health issues if not handled with care

[ ] EV battery temperature regulation is important and needs thermal management systems

[ ] On road an EV needs less maintenance but on mishandling can have an environmental impact

[ ] EV charging infrastructure needs proper planning, installation, maintenance and adherence to safety protocols, as it can lead to electric shocks or overheating on careless usage

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Ensure the EV High Voltage protection includes

[ ] Isolation monitoring to prevent electric shock hazards due to faults or leakage currents

[ ] Ground Fault protection to disconnect the high voltage circuit if there is abnormal current flow

[ ] Voltage Limiting Devices or Surge Protection to limit voltage spikes and transient over voltage damage

[ ] Over current protection or Fuses / Circuit breakers to interrupt or stop flow of over current

[ ] Temperature monitoring to prevent overheating of high voltage components, such as, batteries, and power electronics

[ ] Emergency Disconnect systems to help quickly disconnect the high voltage power supply and circuit in case of an accident, emergency or fire

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2. Automobile On-road Consultation at NSSR RS Desk or Student friendly Stations

Providing **on-site assistance to help people/students contact**(automobile manufacturer specific) nearest service outlets.

Providing of NSSR RS **i-Dashboard services** that are either "Anonymous, NSSR RS Desk or Commuter Desk Caller ID specific or Dealer membership ID specific", where vital consultation information is made available on a registered mobile number or on a registered vehicle's on-board systems. The NSSR RS Centre of Excellence website highlights the vital consultation information.

3. Information driven Resources at NSSR RS Desk or Student friendly Stations

Providing of **information on Hotels/Restaurants/Choice of food** available nearby (despite this information being available via mobile applications, the NSSR RS Desk or Commuter Desk focuses on experience building)

Providing of **information on Accommodation** available nearby(despite this information being available via mobile applications, the NSSR RS Desk or Commuter Desk focuses on experience building)

Providing of a **Travel Advisory** to guide commuters on the basis of travel safety for specific locations or regions

Providing of **Featured themes for road safety**

Providing of **Performance / Safety Analysis information for two-wheelers, four-wheelers and commercial vehicles (if associated with the educational institution/department/road safety project**

Linked Coordination to on-route Healthcare providers, to help address incidences and limitations that prevail today

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4. NSSR RS Desk or Student friendly Outlet+

Providing of **healthy snacks, foods, juices** for the commuter (depending on duration of travel)

Providing of **vital pharmaceutical products** (to help address incidences and limitations that prevail today)

Support for NSSR RS i-Dashboard services

Providing of **survey information or reports from new concept sentinels (or Road Controllers)**

Providing of **virtual travel libraries** (that use new concept critical path management to help commuters explore **VTL journals** or review **real-time trends** for routes or travel destinations. This needs coordination with Creative Viewpoint Studios and Holiday Package companies)

New CRM rating that is universal for all stations and outlets that could be part of (student field trips or tours or routes to destinations)

The specification expects that the following ratings could help the envisioned Strategic Quality Plan, that is

a. Poor Quality of Service (where there are issues with quality)

b. Non-conforming Services (where there are complaints and grievances)

c. Standard Quality of Service (where customer satisfaction level is high)

d. Veritable Quality of Service (the new vision)