Every second counts
Response time: Emergency medical services

- Ambulances help saving lives but fails many times due to delay in reaching to victim’s location or hospital on time mainly due to traffic blocks.

- **Golden hour** refers to a time period lasting for one hour, or less, following traumatic injury which there is the highest likelihood that treatment will prevent death.

- In any severe medical case, a patient transported to the nearest healthcare facility within 15-20 minutes, has exponentially high survival chance.

- Survival rate from a heart attack or a life threatening injury reduces from 70% to less than 10% in just 4 minutes due to delay in first EMS response.

- With increasing vehicles and traffic congestions on roadways, ambulances are often delayed attending patients.

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Most of the people either lose their life or get into a much serious medical condition, due to a sudden health issue, because they fail in receiving the right medical aid in time.

Other vehicles on the roadways want to clear path for quick passage of ambulances but there are few vehicles in nearby proximity have information with little or no time to respond.
Current Scenario

Emergency vehicles use “sirens” and “emergency lights” in order to alert other vehicles on the road for “Right of way”.

Limitations of information transferred by “emergency lights”:

- Can alert vehicles in close proximity only.
- Hindered view due to vehicles.
- Little use in day light.
- Rear view mirrors.
- Minimal attention of drivers.
- Last minute information.
- High chances of negligence.
Limitations of information transferred by sirens:

- **Audible** to nearby vehicles only.
- **Sound insulated** car cabins.
- **Music system** noise.
- Last minute information.
- **Confusion of location.**
- Minimal attention of drivers.

Even in best case scenario we are able to alert vehicles in nearby proximity only, that too with little time to respond.
Solution

(A) Timely alerting all the vehicles travelling on the same road regarding movement of upcoming ambulance.

- In order to ensure quickest passage of ambulance on road, ALL vehicles on same road should be informed/alerted.
- Other vehicles require some time to respond to such urgency. Thus pre warning is necessary.

(B) Creating a temporary green corridor by installing basic infrastructure and smart inter communication channels.

- In case of a urgency, a pre defined lane on roadway will be temporarily dedicated for emergency vehicle only.
- Avoiding driver’s confusion of lane preference, resulting in safest and quickest response of emergency vehicle.
Our Approach

Additional infrastructure is installed on street lights. Using structural support and power supply from existing infrastructure.

Patent pending, automated green corridor suspended above ground level, not interfering with traffic unless initiated during emergency.
Implementation

Using IOT (internet of things) & smart communication controls.

Working towards achieving sustainable and SMART CITIES.
Key Benefits

A. Automated green corridor. (Easy and fast to implement)
B. Temporary dedicated lane for safe and quick passage.
C. Suspended at safe height, in straight view to drivers.
D. Pre Warning : Alerting vehicles on road before movement.
E. Clear instruction of ambulance lane.
F. Providing enough time to other drivers for clearing traffic.
G. Reduces response time caused by traffic.
H. Real time assistance via control center to ambulance drivers.
I. Minimizing ambulance’s accident caused by lane changing.
Benefits

A. Temporary dedicated lane:
   • Not interrupting traffic, unless urgent.
   • Clears single lane, rest work as usual.
   • Quickest passage – “Right of way”

B. Automated green corridor:
   • Fast deployment and easy to operate.
   • Smart roads, initiative for smart cities.
   • Less on the spot police staff required.

C. Suspended at height; straight view:
   • Mounted at a safe height from traffic.
   • In direct line of view for other drivers.
   • Alert not limited to rear view mirrors.
Benefits (contd..)

D. Pre Warning system:
- Traffic cone marker suspend downward.
- Alerting ALL the vehicles on roadway.
- Requesting to vacate dedicated lane.

E. Clear instruction of emergency lane:
- Avoiding confusion of lane preference.
- “Right of way”, please move left wards.
- Traffic can respond via lane switching.

F. Enough time to respond:
- Other driver can act more responsibly.
- In 2-5 minutes, traffic can adjust.
- Last minute information creates chaos.
Benefits (contd..)

G. Emergency response time:
   - Reduces travel time via dedicated lane.
   - Least interference with traffic.
   - Quick passage possible from empty lane.

H. Real time assistance- Control center:
   - Coordinating routes, traffic conditions etc
   - Assistance from pickup to drop location.
   - Synchronizing green corridor accordingly.

I. Minimizing ambulance’s accident:
   - Least requirement of lane swapping.
   - Traffic is aware and expecting movement
   - Less turbulent situation by dedicated lane
Cost for maintaining & installing additional infrastructure will be recovered from advertising revenue.
Rotatable display warnings

PLAY as SLIDESHOW
Rotatable display warnings & Multiple Ads

- **Warning in place** of advertising during **critical movement**.
- **Multiple Ads** can generate manifold revenue from single space.
- **Same motor** switches Ad/warning & emergency mechanism.

IDLE – Advertisement

ACTIVE - Warning

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Rotating Multiple Ads: 2-3 times Ad revenue

Multiple Ads manifold revenue of each street light advertisement

- Previous amount ~Rs 10,000 approx.
- 4 Advertisers paying Rs 5,000 each:
- Earning Rs 20,000 (2 times profit)

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Action plan

Step 1: An emergency medical case reported.
Step 2: Getting location data for emergency response. GPS coordinates etc.
Step 3: Evaluate patient priority via triage system, Injury severity score (ISS).
Action plan (contd..)

Step 4: Finding nearest Hospital, traffic conditions, Estimated time of arrival.
Step 5: Finalizing route and ‘global group’ of street lights (marked red circle).
Step 6: Initiate and align street lights for green corridor mechanism.

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Step 7: ‘Local group 1’ consists of ‘4 street lights’ marked as green circles.
Step 8: Dedicated lane is provided for ambulance on ‘Local group 1’.
Step 9: Rest of the local groups are marked red and ready to deploy.
Action plan (contd..)

Step 10: Dedicated lane is removed from ‘local group 1’.
Step 11: Dedicated lane is provided for ambulance on ‘Local group 2’.
Step 12: Rest of the local groups are marked red and ready to deploy.
Step 13: Dedicated lane is removed from ‘local group 1’ and ‘local group 2’.

Step 14: Dedicated lane is provided for ambulance on ‘Local group 3’.

Step 15: ‘local group 4’ is marked red and ready to deploy.
Step 16: **Dedicated lane is removed** from ‘local group 1’ to ‘local group 3’.

Step 17: Dedicated lane is provided for ambulance on ‘Local group 4’.

Step 18: **Final ETA** is shared with hospital authorities.
Step 19: Dedicated lane is removed from ‘Global group’
Step 20: Traffic moves as usual.
Step 21: Patient reaches hospital and receives medical assistance.
“AUTOMATED GREEN CORRIDOR”

Smart roads innovation for all major cities **globally**

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CSR Initiatives

Hindustan Times group started a CSR initiative for ambulances on its radio station FEVER 104 FM. Victims share location details with Fever 104 & they broadcast alert on city radio: “Left ho jao because Ambulance First!”

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“I support Fever 104 FM’s fight for what’s right! Left Ho Jao because Ambulance First”
- Varun Dhawan

“MY FATHER DIED OF A HEARTLESS ATTACK WHEN NO ONE GAVE WAY TO THE AMBULANCE IN TRAFFIC”
- Raman Chopra

If you see an ambulance stuck in traffic jam, call us on 011 44104104

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Other Initiatives (Private + Public)

Radhee foundation

Awareness campaign via billboards etc. in Mumbai

Where such posters helps public understand protocol and importance of their action or inaction.

Thane traffic police

• 2 out of 10 patients die in ambulance before reaching to hospital.
• Speed of Ambulance carrying critical patients is just 12 – 15 km/hr.
• Contribute in Saving Lives.
• Move left and drive slow to give way.

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Other Initiatives (Government)

Karnataka Clears the Path for Ambulances – “Overtake ambulance and lose your license”

- According to road regulations, it is compulsory for all the commuters to make way for ambulances and draw to the side of the road. But many motorists violate the rules regularly.
- CM said: "Traffic density is increasing in cities like Bengaluru. Naturally, vehicle riders and drivers tend to block the movement of ambulances and overtake them. This has to be curbed at any cost. I have given instructions to the police authorities to impound the driving license of people who overtake ambulances".

New York report on AMBULANCE collision

- Two vehicles accident dominates. (78% of total i.e. 367/471)
- Human factors marked with red cross (❌), will be minimized
- Leading to 68% decrease in human related accidents (151/222)

**NYS DMV Ambulance Accident Reports: Manner of Collision, 2009**
(accident not necessarily caused by EMS driver)

*Top human factors cited:*
(70) Failure to yield right of way
(67) Driver inattention
(29) Following too closely
(22) Unsafe speed
(20) Traffic control disregarded
(14) Passing or lane change improper

*Top environmental factors cited:*
(26) Animals action
(23) Slippery pavement
(16) Obstructed or limited view
According to the National Crime Records Bureau, nearly 24,012 people die each day due to delay in getting medical aid.

Most patients suffered heart attacks, brain hemorrhage, accidents and strokes.

Heart attacks is 1st with 19% of the total (i.e. 15 lac per year)

Brain hemorrhage is 4th leading cause. (i.e. 10 lac per year)

Delay in response in case of FIRE has serious consequences, where DFS(Delhi Fire Service) receives about 125 calls daily.

15 fire stations in 1983 has increased to 59 stations but response time of fire rescue vehicles is still increasing.

The response time of the Delhi Fire Service (DFS) has gone up from 3 to 9 minutes in the past few years because of traffic.

Clearly increasing fire station isn’t working & unlike hospitals there is no private fire station, Only solution is managing traffic.

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Summary

- Traffic is a **persistent problem**, Ought to increase with time.
- Ambulances, Fire trucks, Police response time minimized.
- Saving **critical time**, leading to **saving millions of lives**.
- Pre **warning** to all vehicles along with clear passage guidelines.
- Temporary dedicated lane for emergency vehicles.
- **Patent pending technology** for “Automated Green Corridor”
- Advertising as source of revenue. (Generate manifold revenue)
- Preventing **60%-70% accident** during **ambulance movement**
- Global initiative for **smart roads** and **smart cities**.
- **Health for All** : Better **health care services** for each citizen.
- **Make in India**: Innovative solution for all major cities globally
- **FEEL the JOY** in contributing to **SAVE A LIFE**.

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