

Service Level Benchmarking in Urban Transport for Indian Cities

Past – Present – Future

Results

Ahmedabad | Bhubaneswar | Hubli-Dharwad | Kohima | Mysore | Surat

An Initiative of the Ministry of Urban Development, Government of India

Presented by
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Ministry of Urban Development
Government of India, New Delhi



CEPT
UNIVERSITY
Centre of Excellence in Urban Transport

Report Card



Level of Service

<div> <div>City</div> <div>Focus Area</div> </div>	Ahmedabad		Surat		Hubli-Dharwad		Mysore		Bhubaneswar		Kohima	
	2015	2012	2015	2012	2015	2012	2015	2012	2015	2012	2015	2012
Public Transport Facilities	3	3	3	3	3	3	2	2	3	3	3	3
Financial Sustainability of Public Transport	3	4	4	4	3	3	3	3	3	3	2	3
Pedestrian Infrastructure Facilities	3	3	3	3	4	3	3	3	2	3	4	4
Non-motorized Transport Facilities	4	4	4	4	4	4	4	4	4	4	4	4
Application of ITS Facilities	2	2	3	4	4	4	3	3	4	4	4	4
Road Network Performance	2	2	2	2	2	2	2	2	2	2	4	4
Parking Management	3	3	2	3	2	4	3	3	2	4	3	3
Road Safety	3	3	3	3	4	4	4	4	4	3	3	3
Environment	2	2	2	2	2	2	2	2	2	2	2	2
Integrated Land Use – Transport System	2	3	3	3	3	3	3	3	3	3	4	4
Intermediate Public transport	3	3	3	3	3	4	3	3	3	3	4	4
LoS Color Code						LoS 1		LoS 2		Los 3		LoS 4



Level of Service



Focus Area: Public Transport Facilities

Public Transport Facilities



- Percentage Fleet size as per UBS- 3 to1

- Average Waiting Time for PT Users- 4 to1
- Percentage Fleet size as per UBS-4 to 3
- Level of Comfort- 3to 2
- Affordability of PT- 2 to 3

- Average Waiting Time for PT Users- 4 to 3
- Vehicle Utilization- 2 to 1
- Extent of Supply/Availability of PT-1 to 2
- Service Coverage of PT- 3 to 4

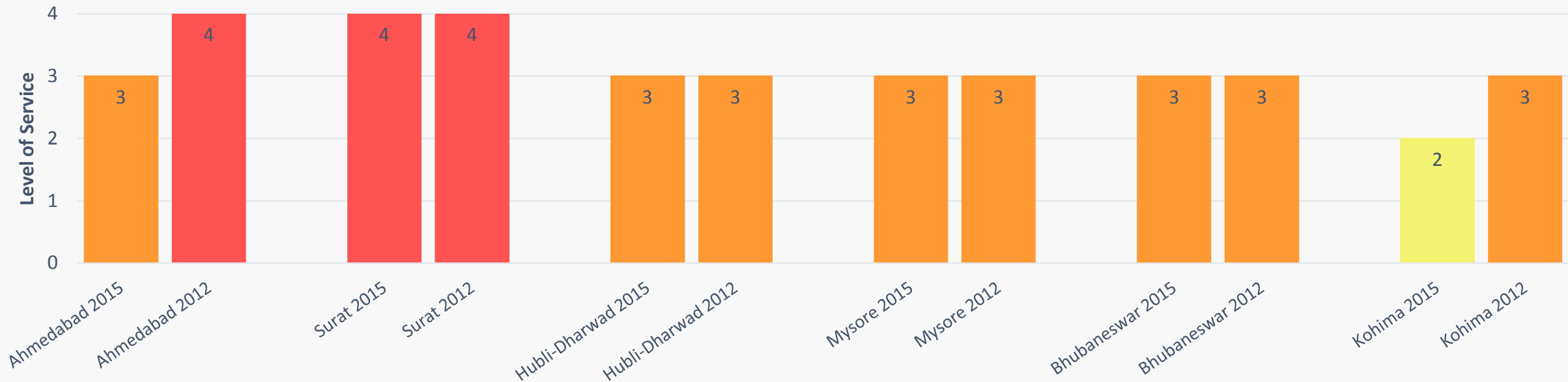
- Level of Comfort- 3 to 2
- High Frequency Transit Access Area- 3 to 4
- Affordability of PT-3 to 4

- Service Coverage of PT- 3to 2
- Average Travel Speed of PT- 1 to 2



Focus Area: Financial Sustainability of Public Transport

Financial Sustainability of Public Transport



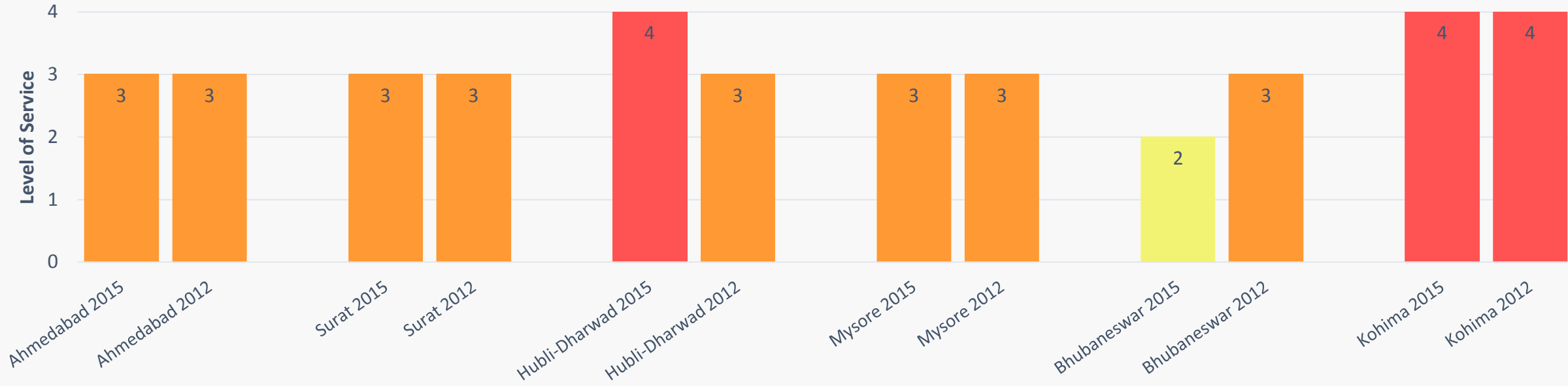
- Extent of Non-fare Revenue -4 to 3
- Bus Staff Ratio- 3 to 2

- Extent of Non-fare Revenue- 4 to 2
- Operating Ratio-3 to 2



Focus Area: Pedestrian Infrastructure Facilities

Pedestrian Infrastructure Facilities



- Availability of Signalized Junctions- 2 to 3

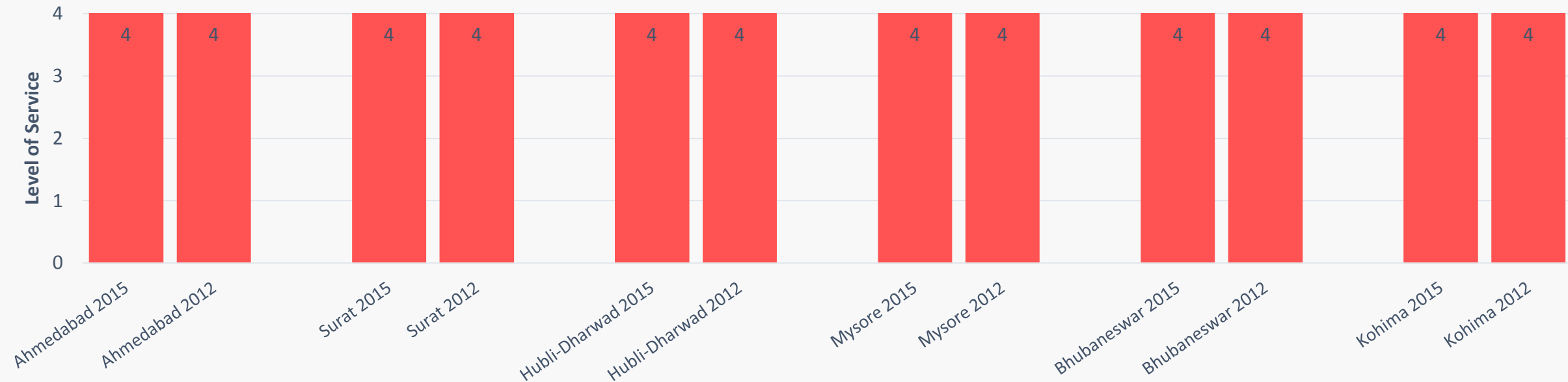
- Signalized Intersection Delay – 4 to 3

- Street Lighting (LUX Level) for Footpath -1 to 2

- Availability of Signalized Junctions- 3 to 2
- Signalized Intersection Delay-4 to 1

Focus Area: Non-motorized Transport Facilities

Non-motorized Transport Facilities

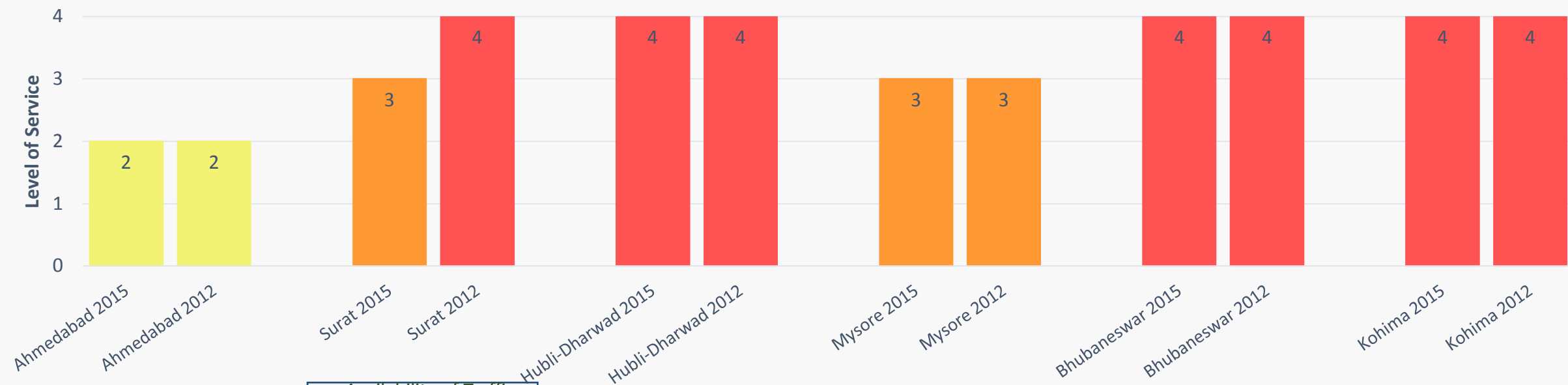


- NMT Parking Facilities at Interchanges- 3 to 2



Focus Area: Application of ITS Facilities

Application of ITS Facilities



- Availability of Traffic Surveillance System- 4 to 2

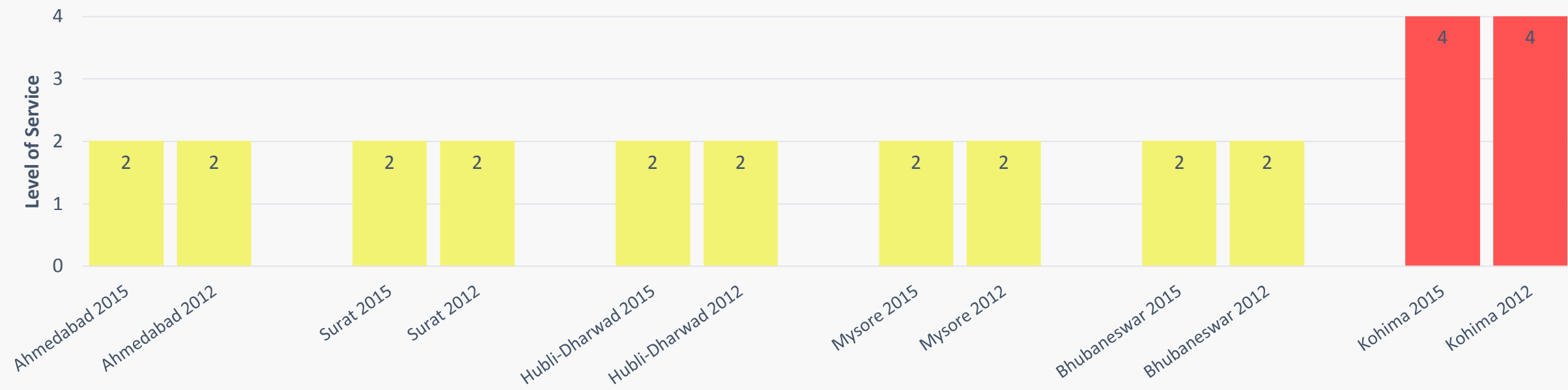
- Availability of Traffic Surveillance System- 4 to 3
- Passenger Information System- 2 to 1
- Global Positioning System- 4 to 3
- Signal Synchronization- 4 to 3
- Integrated Ticketing System- 4-2

- Availability of Traffic Surveillance System- 3 to 2

- Availability of Traffic Surveillance System 4 to 3
- Passenger Information System- 4 to 2
- Integrated Ticketing System- 4-3
- Global Positioning System- 1 to 4

Focus Area: Road Network Performance

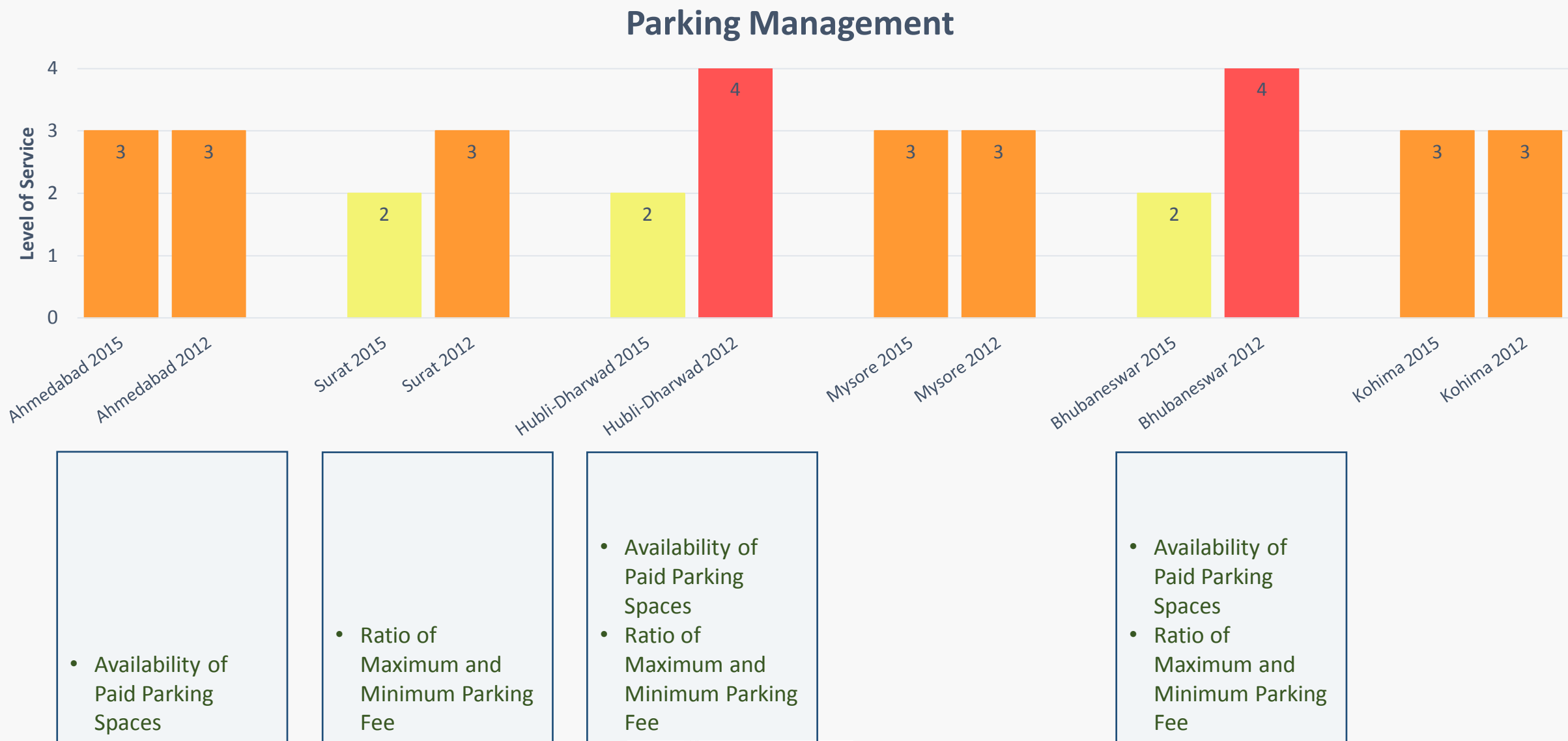
Road Network Performance



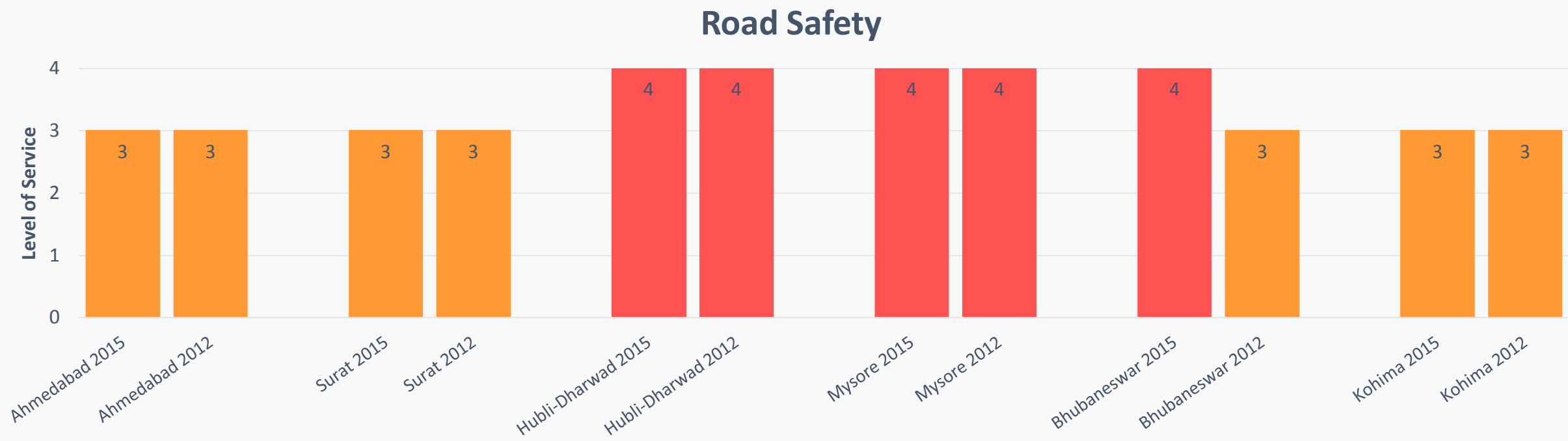
• Percentage Area Under Roads- 2 to 1

• Street Lighting (LUX Level) for Roads- 4 to 3

Focus Area: Parking Management



Focus Area: Road Safety



- Fatality Rate per Lakh Population- 2 to 3

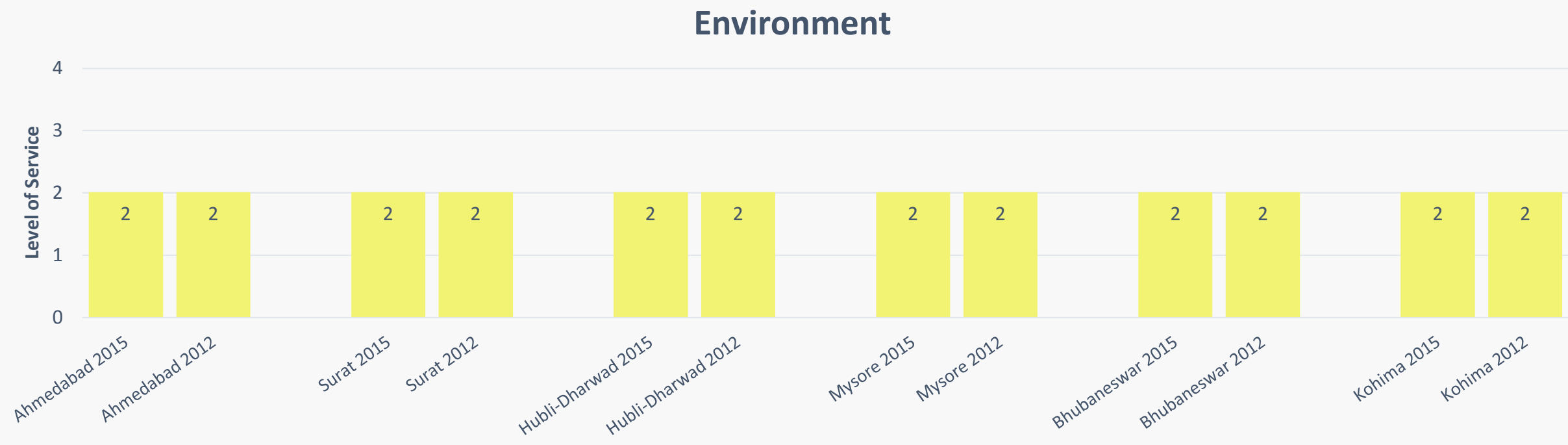
- Fatality Rate for Pedestrian & NMT- 3 to 4

- Fatality Rate for Pedestrian & NMT- 1 to 4

- Fatality Rate per Lakh Population- 1 to 4
- Fatality Rate for Pedestrian & NMT- 3 to 1



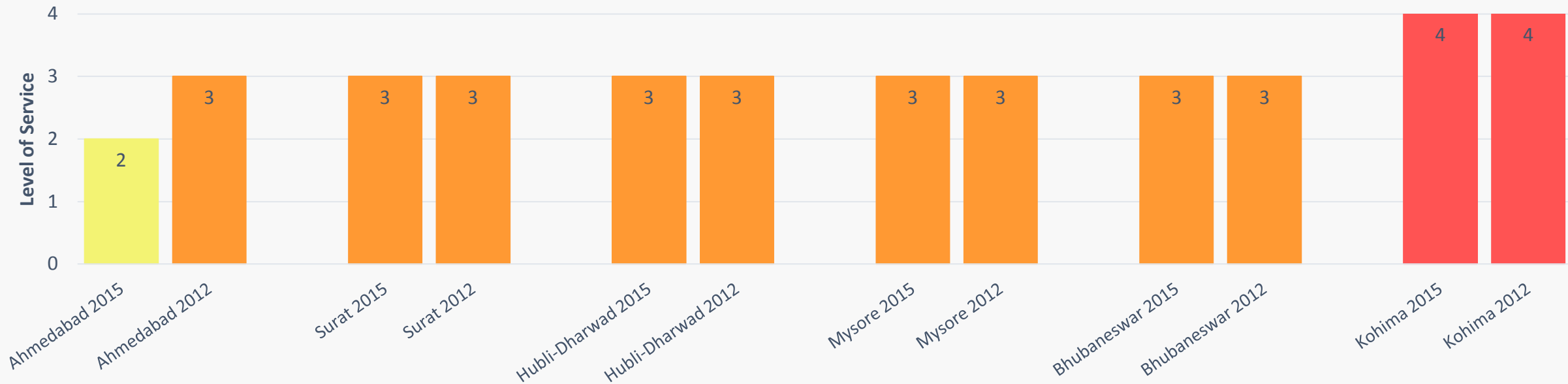
Focus Area: Environment



• Reading of RSPM (PM2.5)- 3 to 1

Focus Area: Integrated Land Use – Transport System

Integrated Land Use – Transport System



- Potential For Development along Transit Corridor- 3 to 1

- Percentage Network with Exclusive RoW for Transit- 4 to 2

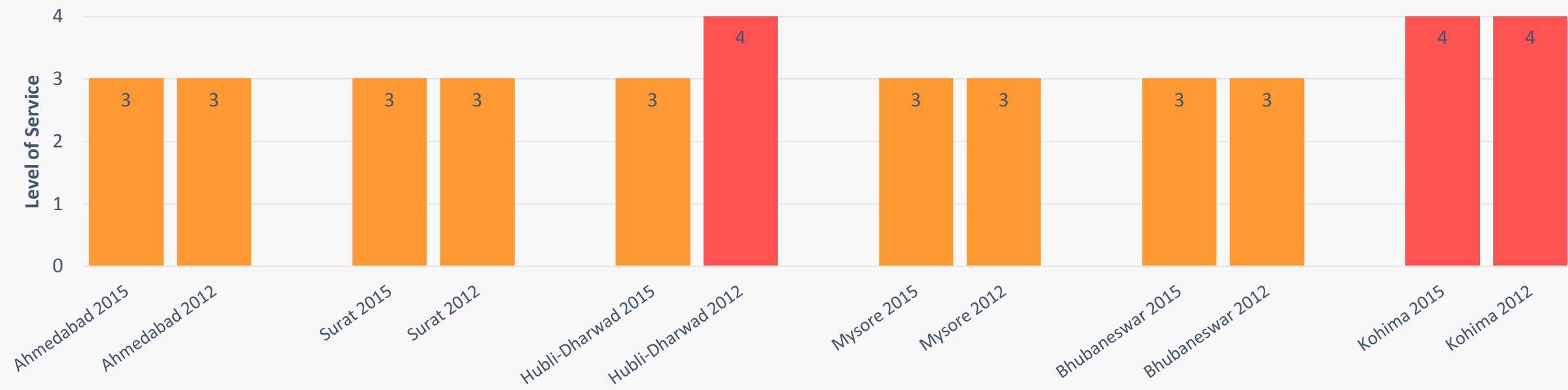
- Percentage Network with Exclusive RoW for Transit- 4 to 3

- Population Density- 2 to 1
- Potential for Development along Transit Corridor- 4 to 3



Focus Area: Intermediate Public Transport

Intermediate Public transport



• Average Travel Speed of IPT- 2 to 1

Estimated Level of Service for **Surat**



Focus Area: Public Transport Facilities

Sr. No	Public Transport Facilities	Target LoS	Surat Indicator Value - PT Facilities			Surat LoS -PT Facilities		
			2018*	2015	2012	2018*	2015	2012
1	Presence of Organized Public Transport System in Urban Area (%)	1	100%	100%	100%	1	1	1
2	Extent of Supply-Availability of Public Transport (PT per 1000 population)	2	0.26	0.026	0.023	2	4	4
3	Transit Access Area (% built-up area within 500 m of PT plying)	2	72%	48%	46%	2	3	3
4	Service Coverage of Public Transport in the Study Area (km/km²)	2	1.42	0.42	0.31	1	3	3
5	Average Waiting Time for Public Transport Users (minutes)	2	4	6	12	1	1	4
6	Level of Comfort in Public Transport (passenger/seat)	3		1.8	2.5		2	3
7	Percentage Fleet Size as per Urban Bus Specification (UBS) (%)	3	100%	26%	0%	1	3	4
8	Total Boarding per 1000 population	2	88	12	15	4	4	4
9	Average Travel Speed of Public Transport (kmph)	2		22	24		1	1
10	Affordability of Public Transport (% expenditure on transportation)	2		17%	14%		2	1
11	Breakdown of Public Transport (per 10,000 km)	2		3.05	NA		4	4
12	Vehicle Utilization (km per day)	2	175	165	166	4	4	4
Total Score							32	36
Overall LoS – 3							3	3

Legend - Change Colour Code

	No Change
	Positive Change
	Negative Change

*Tentative numbers in 2018, if all the PT proposals are on ground

Legend - LOS Colour Code

	LoS 1
	LoS 2
	LoS 3
	Los 4

Focus Area: Application of ITS Facilities

Sr. No	Public Transport Facilities	Target LoS	Surat Indicator Value – Application of ITS Facilities			Surat LoS –Application of ITS Facilities		
			2018*	2015	2012	2018*	2015	2012
1	Availability of Surveillance System (%)	1		47%	12%		3	4
2	Passenger Information System (%)	1	100%	100%	67%	1	1	2
3	Global Positioning System (%)	1	100%	26%	0%	1	3	4
4	Signal Synchronization (%)	1		44%	0%		3	4
5	Integrated Ticketing System	1				1	2	4
Total Score							12	17
Overall LoS – 3							3	4

Legend - Change Colour Code

	No Change
	Positive Change
	Negative Change

**Tentative numbers in 2018, if all the ITS proposals are on ground*

Legend - LOS Colour Code

	LoS 1
	LoS 2
	LoS 3
	Los 4



Estimated Level of Service for **Hubli-Dharwad**



Focus Area: Public Transport Facilities

Sr. No	Public Transport Facilities	Target LoS	Hubli-Dharwad Indicator Value - PT Facilities			Hubli-Dharwad LoS -PT Facilities		
			2018*	2015	2012	2018*	2015	2012
1	Presence of Organized Public Transport System in Urban Area (%)	1	100%	86%	83%	1	1	1
2	Extent of Supply-Availability of Public Transport (PT per 1000 population)	3	0.25	0.28	0.32	2	2	1
3	Transit Access Area (% built-up area within 500 m of PT plying)	2	91%	70%	72%	1	2	2
4	Service Coverage of Public Transport in the Study Area (km/km²)	2	0.95	0.83	0.64	2	2	3
5	Average Waiting Time for Public Transport Users (minutes)	2		11	13		3	4
6	Level of Comfort in Public Transport (passenger/seat)	3		1.64	1.56		2	2
7	Percentage Fleet Size as per Urban Bus Specification (UBS) (%)	3	79%	0%	0%	1	4	4
8	Total Boarding per 1000 population	2		226	223		3	3
9	Average Travel Speed of Public Transport (kmph)	2		14	16		4	4
10	Affordability of Public Transport (% expenditure on transportation)	2		9.4%	9.2%		1	1
11	Breakdown of Public Transport (per 10,000 km)	2		0.06	0.09		1	1
12	Vehicle Utilization (km per day)	2	252	263	240	1	1	2
Total Score							26	28
Overall LoS – 3							3	3

Legend - Change Colour Code

	No Change
	Positive Change
	Negative Change

*Tentative numbers in 2018, if all the PT proposals are on ground

Legend - LOS Colour Code

	LoS 1
	LoS 2
	LoS 3
	Los 4



Focus area: Application of ITS Facilities

Sr. No	Application of ITS Facilities	Target LoS	Hubli-Dharwad Indicator Value- Application of ITS Facilities			Hubli-Dharwad LoS- Application of ITS Facilities		
			2018*	2015	2012	2018*	2015	2012
1	Availability of Surveillance System (%)	1		53%	47%		2	3
2	Passenger Information System (%)	1		0%	0%		4	4
3	Global Positioning System (%)	1	79%	0%	0%	1	4	4
4	Signal Synchronization (%)	1	75%	0%	0%	1	4	4
5	Integrated Ticketing System	1				1	4	4
Total Score							18	19
Overall LoS – 4							4	4

Legend - Change Colour Code

	No Change
	Positive Change
	Negative Change

Legend - LOS Colour Code

	LoS 1
	LoS 2
	LoS 3
	Los 4

**Tentative numbers in 2018, if all the ITS proposals are on ground*

Conclusions

- Improvements are observed in case of two cities- Hubli Dharwad (efforts made by SUTP) and Surat (efforts made as a result of Municipal Corporation) However, all other cities are showing stagnancy in terms of the improvements.
- The situation in case of all cities with respect to NMV is still very poor. Apart from this PT improvements are also limited in all cities.
- Cities are investing in parking management and hence, improvements are seen in this focus area.
- Bringing the NMT agenda to center stages needs to be the focus for improvement in PT as well. Government has recognised this in its various programmes like AMRUT and SMART cities which now needs to be further strengthened.



Thank you

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