

Simple Interactive Models for Better Air Quality

Road Transport in India 2010-30

Emissions, Pollution & Health Impacts

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November, 2012

Annex Material

Total Emissions by State

Year 2010 Business As Usual

Analysis & errors are sole responsibility of the authors.

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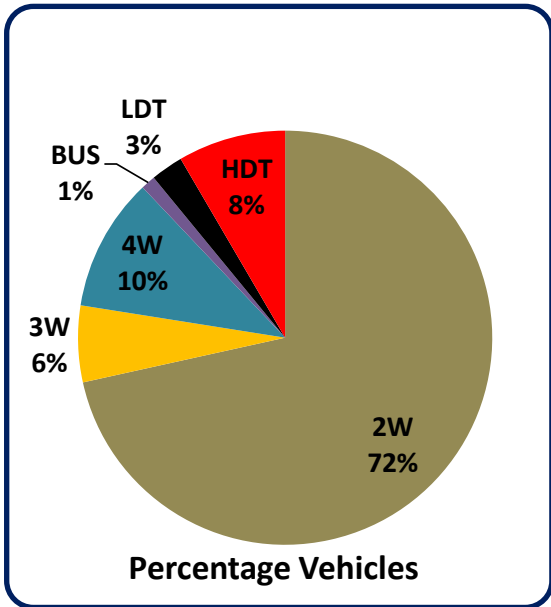
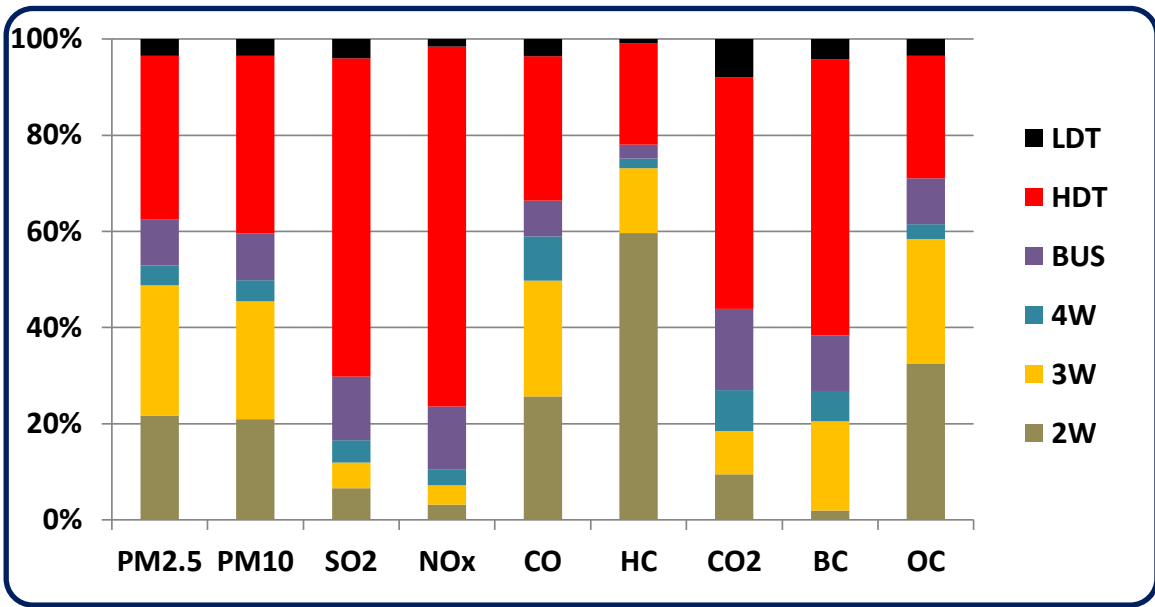


New Delhi, India

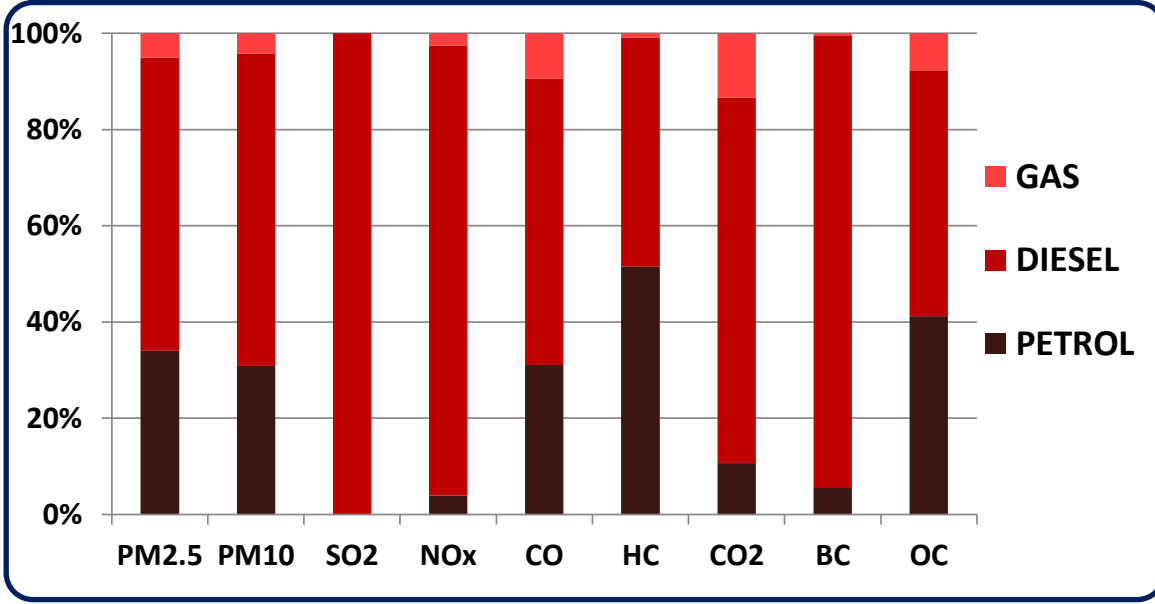
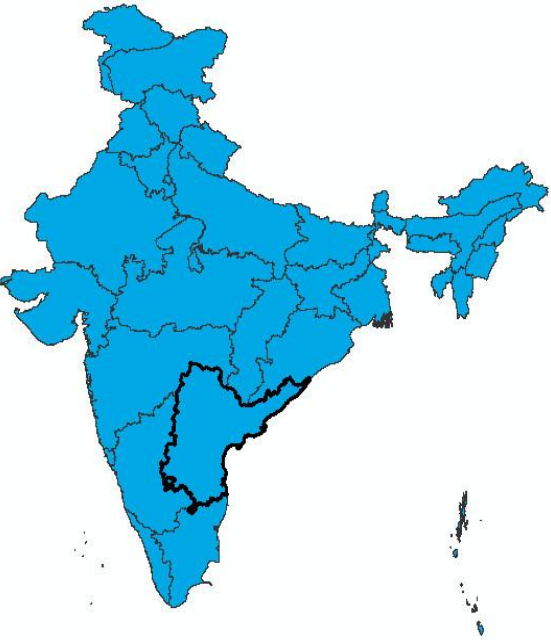
2010

STATE: ANDHRA PRADESH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	4,200	5,270	790	1,870	6,600	670	19,380	tons
PM10	4,980	5,830	1,050	2,300	8,800	820	23,760	tons
SO2	100	80	70	200	1,000	60	1,490	tons
NOx	7,220	8,970	7,380	29,360	168,450	3,390	224,740	tons
CO	71,600	67,070	25,800	20,680	83,810	9,900	278,830	tons
VOC	78,010	17,630	2,630	3,710	27,690	1,060	130,700	tons
CO2	1.8	1.7	1.6	3.2	9.1	1.5	18.7	mill tons
BC	90	850	290	530	2,640	190	4,580	tons
OC	2,520	2,020	240	740	1,980	270	7,750	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	6,590	11,810	990	-	19,380
PM10 (tons)	7,330	15,450	990	-	23,760
SO2 (tons)	-	1,490	-	-	1,490
NOx (tons)	8,790	210,200	5,750	-	224,740
CO (tons)	86,690	165,820	26,330	-	278,830
VOC (tons)	67,410	62,120	1,190	-	130,700
CO2 (mil tons)	2.0	14.2	2.5	-	18.7
BC (tons)	250	4,310	20	-	4,580
OC (tons)	3,200	3,960	600	-	7,750

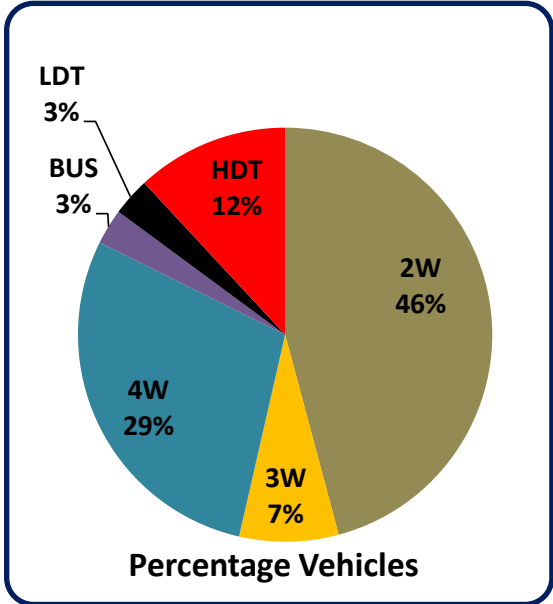
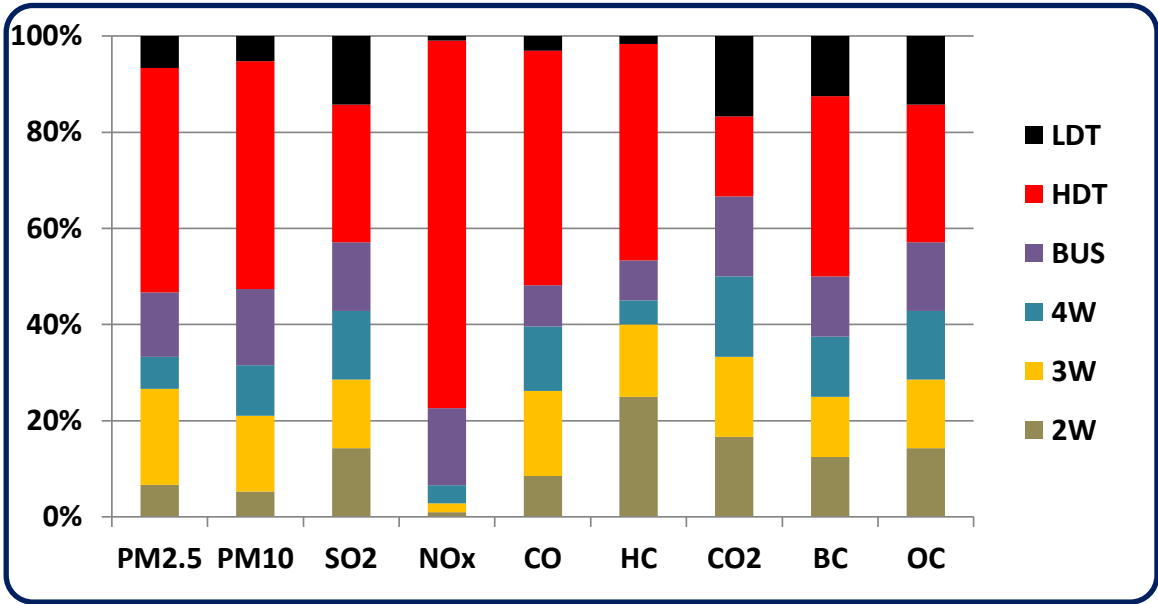


PM = particulate matter; PM2.5 = PM less than 2.5 μ m diameter; PM10 = PM less than 10 μ m; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

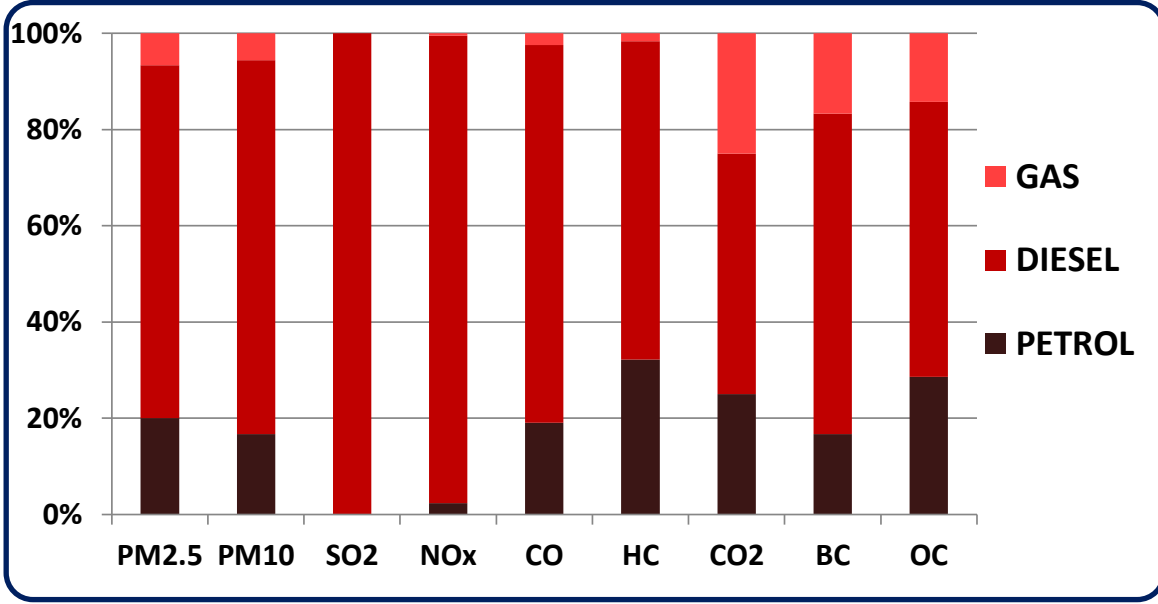
2010

STATE: ARUNACHAL PRADESH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	10	30	10	20	70	10	130	tons
PM10	10	30	20	30	90	10	160	tons
SO2	10	10	10	10	20	10	20	tons
NOx	20	40	80	340	1,620	20	2,090	tons
CO	140	290	220	140	800	50	1,620	tons
VOC	150	90	30	50	270	10	570	tons
CO2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	mill tons
BC	10	10	10	10	30	10	40	tons
OC	10	10	10	10	20	10	50	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	30	110	10	-	130
PM10 (tons)	30	140	10	-	160
SO2 (tons)	-	20	-	-	20
NOx (tons)	50	2,040	10	-	2,090
CO (tons)	310	1,280	40	-	1,620
VOC (tons)	190	390	10	-	570
CO2 (mil tons)	0.1	0.2	0.1	-	0.2
BC (tons)	10	40	10	-	40
OC (tons)	20	40	10	-	50

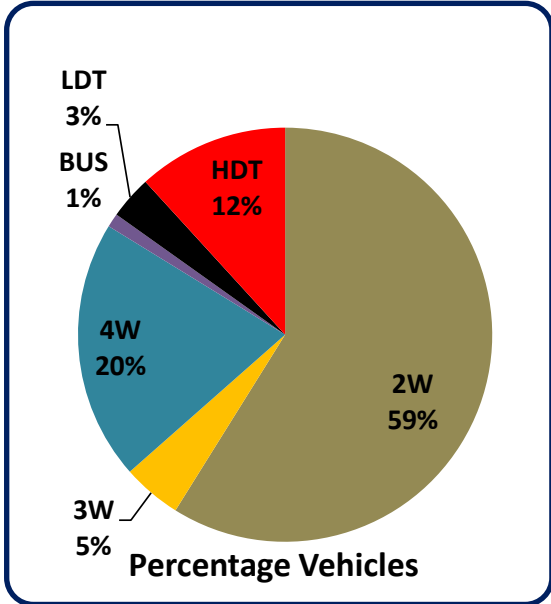
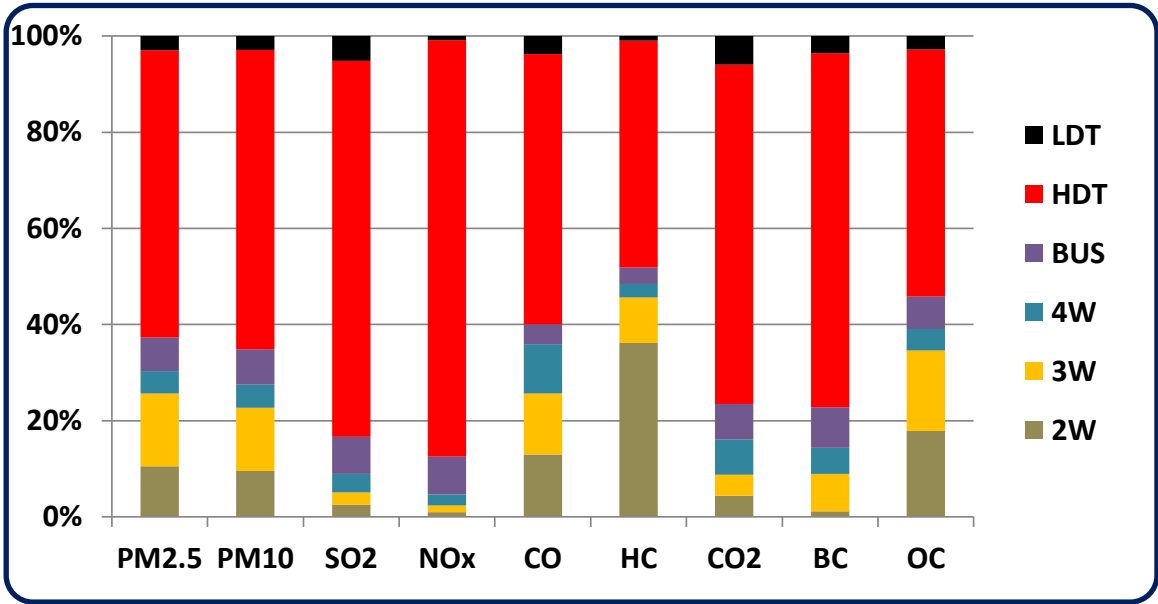


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

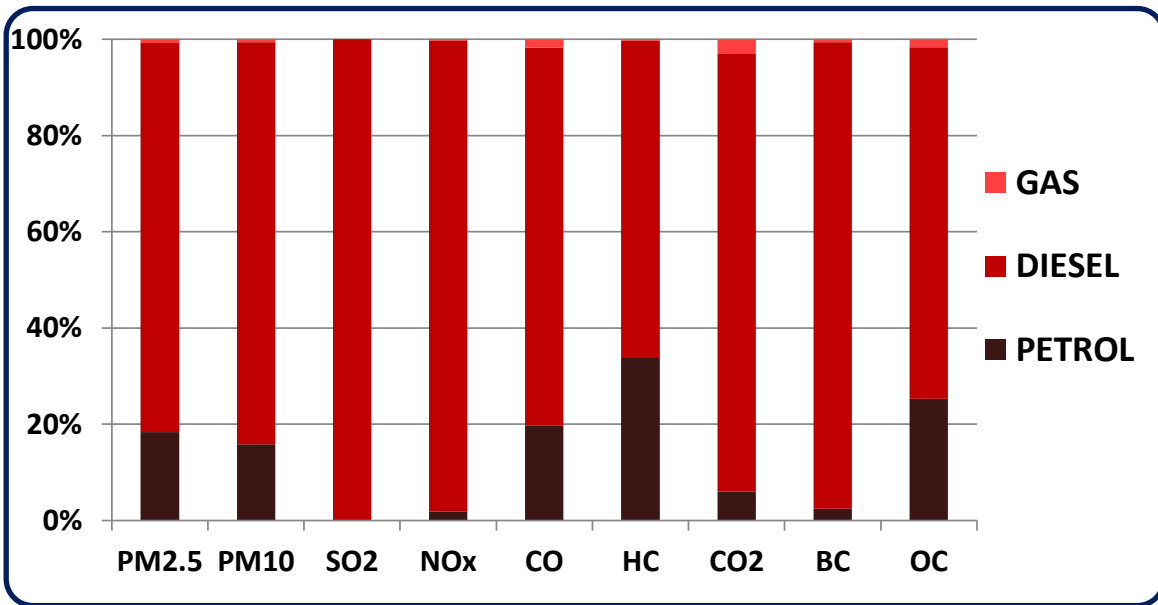
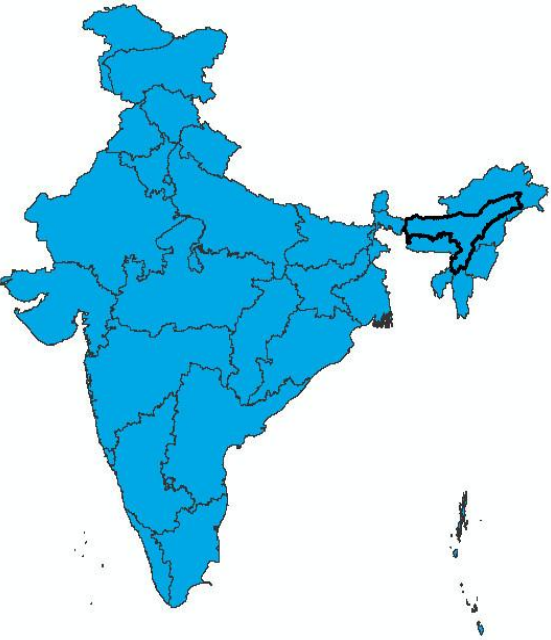
2010

STATE: ASSAM

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	540	780	240	360	3,070	150	5,110	tons
PM10	630	860	320	480	4,090	190	6,550	tons
SO2	20	20	30	60	610	40	760	tons
NOx	920	1,210	2,130	7,080	78,520	740	90,570	tons
CO	9,060	8,790	7,150	2,870	39,090	2,600	69,540	tons
VOC	9,870	2,600	760	920	12,900	250	27,280	tons
CO2	0.3	0.3	0.5	0.5	4.8	0.4	6.5	mill tons
BC	20	130	90	140	1,230	60	1,640	tons
OC	320	300	80	120	920	50	1,770	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	940	4,140	40	-	5,110
PM10 (tons)	1,040	5,480	40	-	6,550
SO2 (tons)	-	760	-	-	760
NOx (tons)	1,670	88,640	270	-	90,570
CO (tons)	13,700	54,650	1,200	-	69,540
VOC (tons)	9,220	18,010	60	-	27,280
CO2 (mil tons)	0.4	6.0	0.2	-	6.5
BC (tons)	40	1,600	10	-	1,640
OC (tons)	450	1,300	30	-	1,770

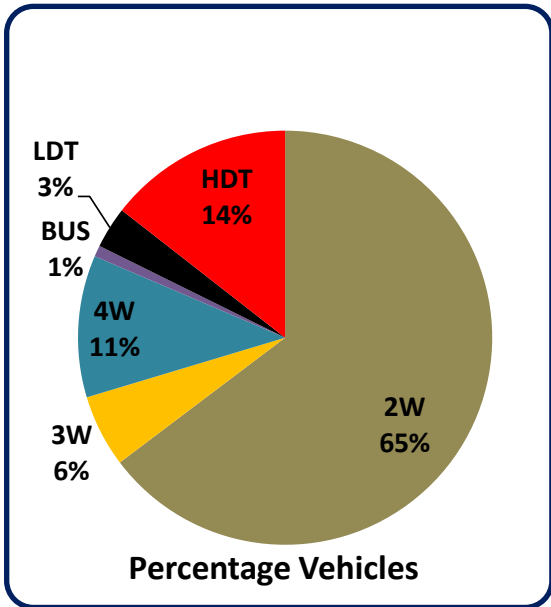
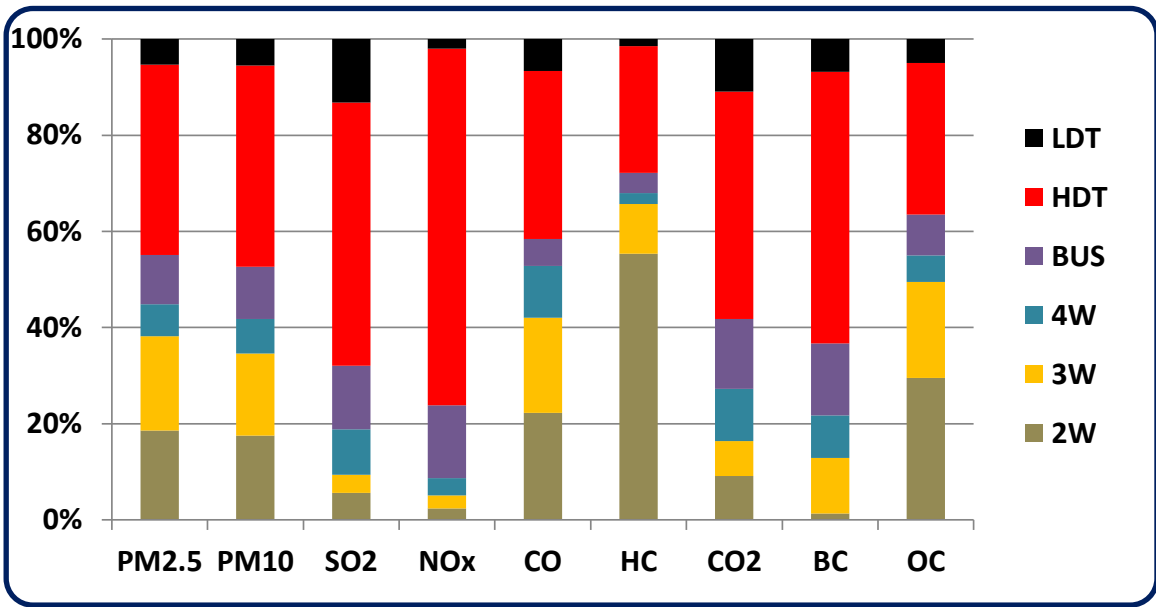


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

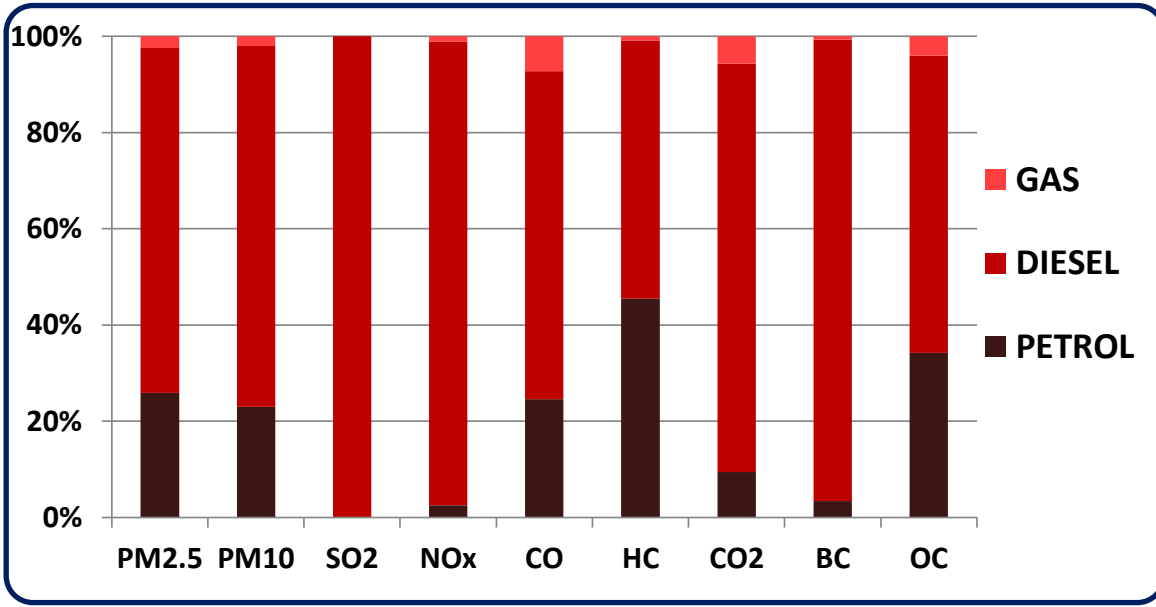
2010

STATE: BIHAR

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	980	1,030	350	540	2,080	280	5,240	tons
PM10	1,160	1,130	470	720	2,770	360	6,590	tons
SO2	30	20	50	70	290	70	500	tons
NOx	1,690	1,940	2,570	10,760	52,670	1,420	71,030	tons
CO	16,700	14,900	8,060	4,250	26,260	4,960	75,110	tons
VOC	18,200	3,420	730	1,390	8,670	480	32,870	tons
CO2	0.5	0.4	0.6	0.8	2.6	0.6	5.2	mill tons
BC	20	170	130	220	830	100	1,450	tons
OC	590	400	110	170	630	100	1,980	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	1,360	3,760	130	-	5,240
PM10 (tons)	1,520	4,950	130	-	6,590
SO2 (tons)	-	500	-	-	500
NOx (tons)	1,800	68,420	820	-	71,030
CO (tons)	18,490	51,170	5,460	-	75,110
VOC (tons)	14,970	17,610	300	-	32,870
CO2 (mil tons)	0.5	4.5	0.3	-	5.2
BC (tons)	50	1,400	10	-	1,450
OC (tons)	680	1,230	80	-	1,980

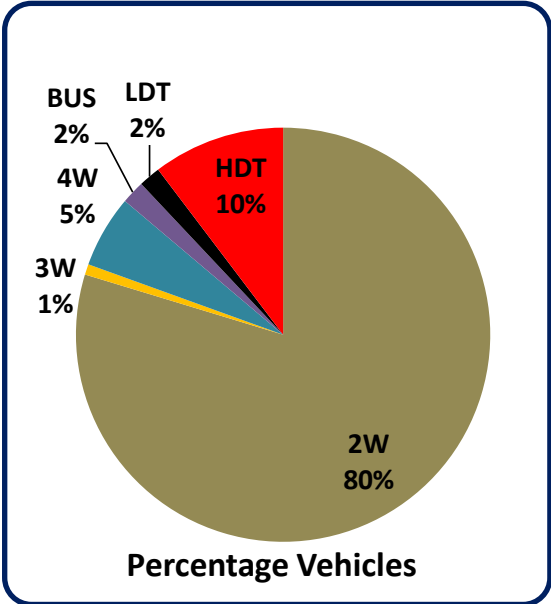
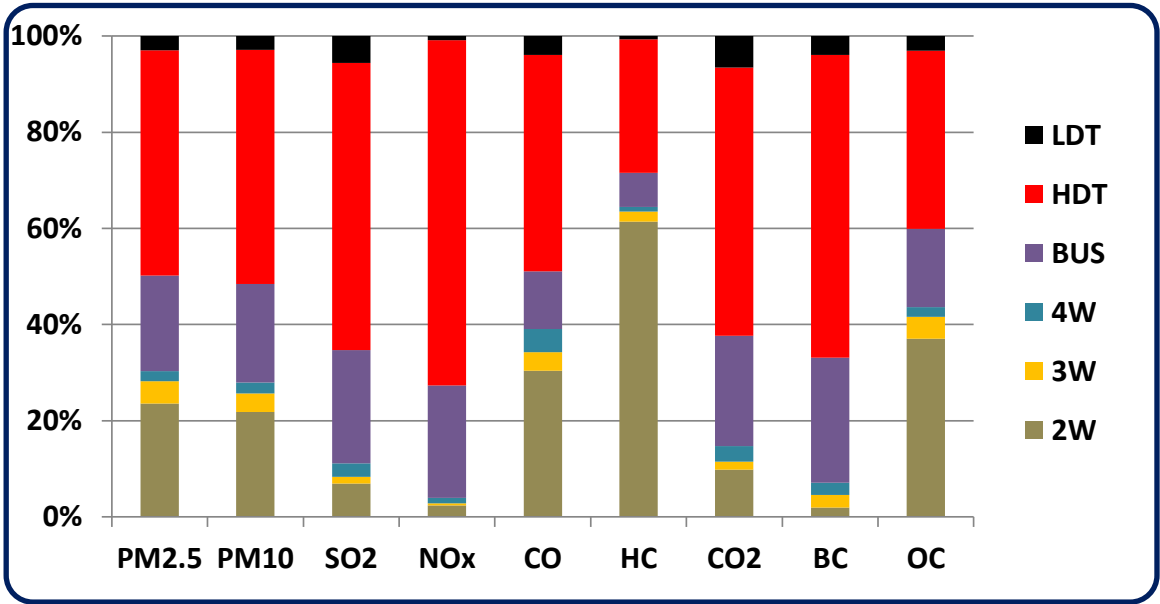


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

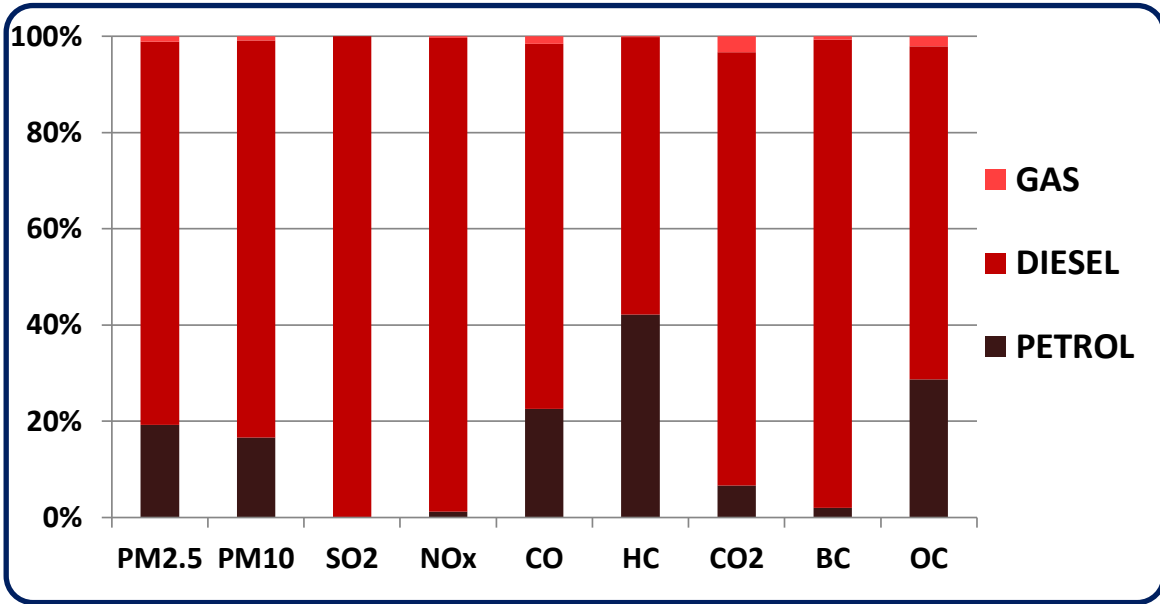
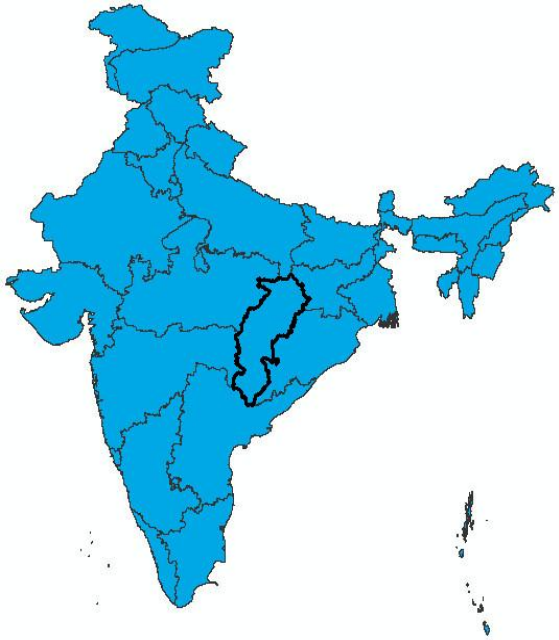
2010

STATE: CHATTISHGARH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,210	240	110	1,020	2,410	150	5,120	tons
PM10	1,440	260	150	1,350	3,220	190	6,580	tons
SO2	50	10	20	170	430	40	680	tons
NOx	2,080	370	980	20,100	61,640	760	85,910	tons
CO	20,640	2,640	3,260	8,140	30,550	2,650	67,850	tons
VOC	22,480	780	350	2,600	10,130	260	36,580	tons
CO2	0.6	0.1	0.2	1.4	3.4	0.4	5.8	mill tons
BC	30	40	40	400	970	60	1,510	tons
OC	730	90	40	320	730	60	1,940	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	990	4,090	60	-	5,120
PM10 (tons)	1,090	5,430	60	-	6,580
SO2 (tons)	-	680	-	-	680
NOx (tons)	1,030	84,560	330	-	85,910
CO (tons)	15,280	51,520	1,060	-	67,850
VOC (tons)	15,420	21,110	50	-	36,580
CO2 (mil tons)	0.4	5.4	0.2	-	5.8
BC (tons)	30	1,480	10	-	1,510
OC (tons)	560	1,350	40	-	1,940

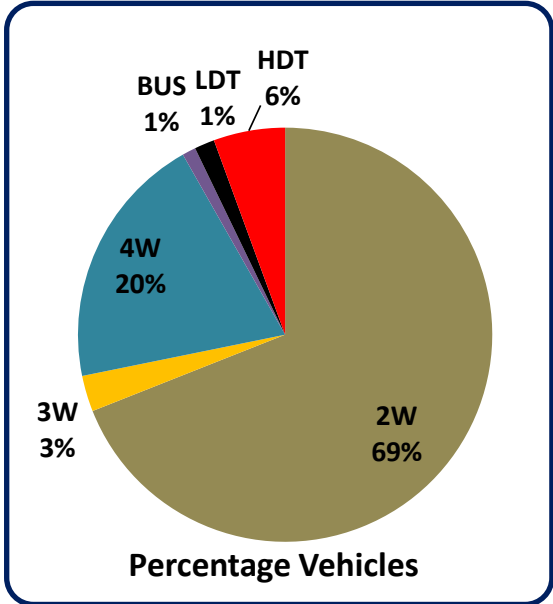
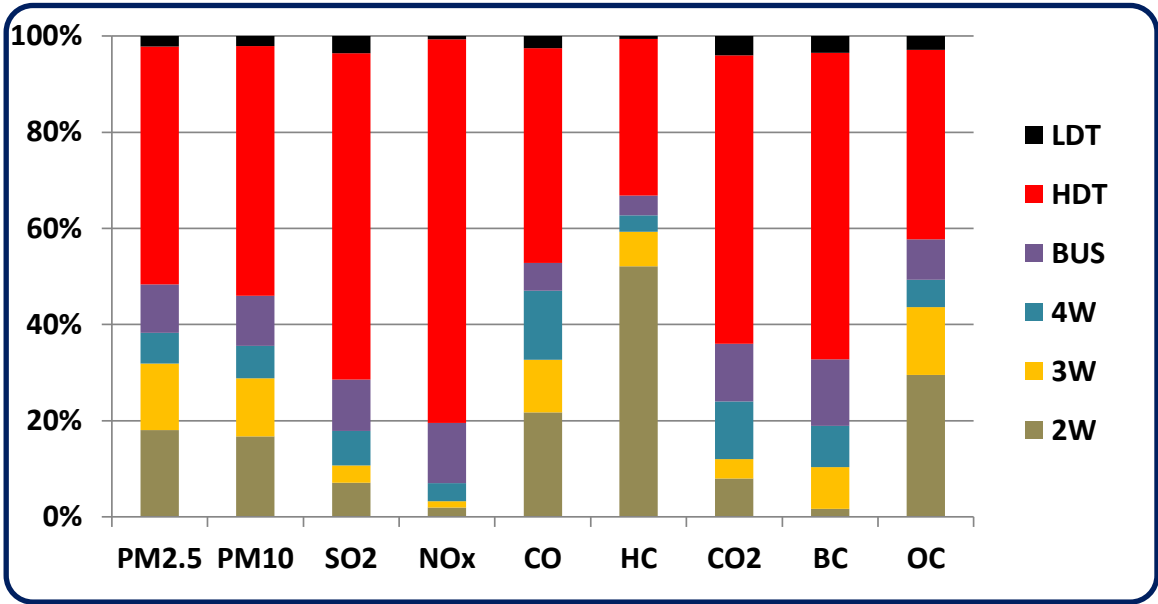


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

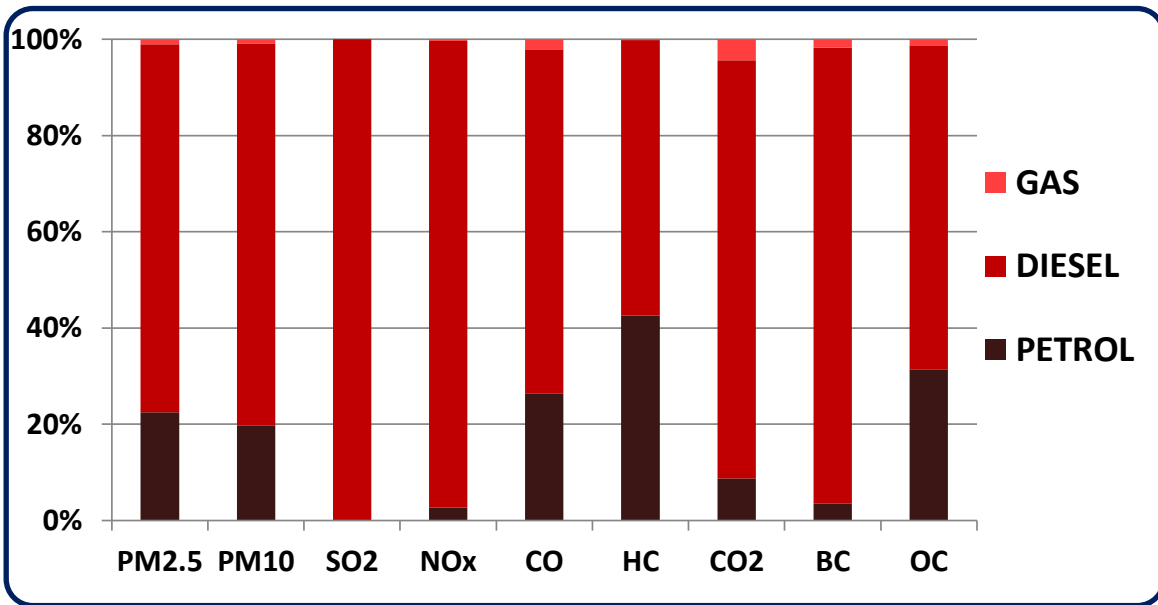
2010

STATE: GOA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	340	260	120	190	930	40	1,860	tons
PM10	400	290	160	250	1,240	50	2,360	tons
SO2	20	10	20	30	190	10	260	tons
NOx	580	400	1,100	3,740	23,710	190	29,690	tons
CO	5,730	2,890	3,780	1,520	11,790	650	26,330	tons
VOC	6,240	860	410	490	3,900	70	11,940	tons
CO2	0.2	0.1	0.3	0.3	1.5	0.1	2.3	mill tons
BC	10	50	50	80	370	20	550	tons
OC	210	100	40	60	280	20	680	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	420	1,430	20	-	1,860
PM10 (tons)	470	1,890	20	-	2,360
SO2 (tons)	-	260	-	-	260
NOx (tons)	800	28,780	110	-	29,690
CO (tons)	6,950	18,830	560	-	26,330
VOC (tons)	5,090	6,840	20	-	11,940
CO2 (mil tons)	0.2	2.0	0.1	-	2.3
BC (tons)	20	540	10	-	550
OC (tons)	220	470	10	-	680

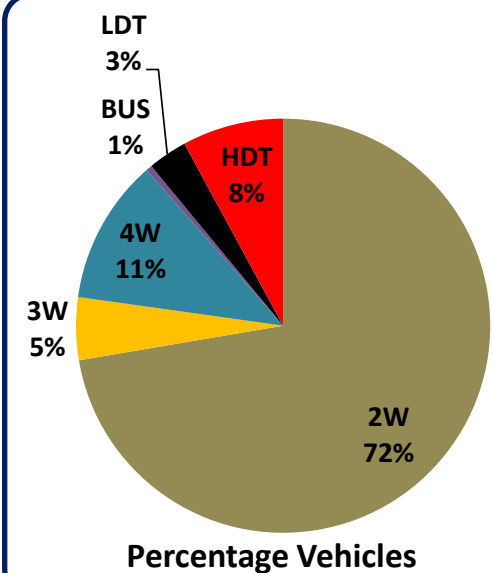
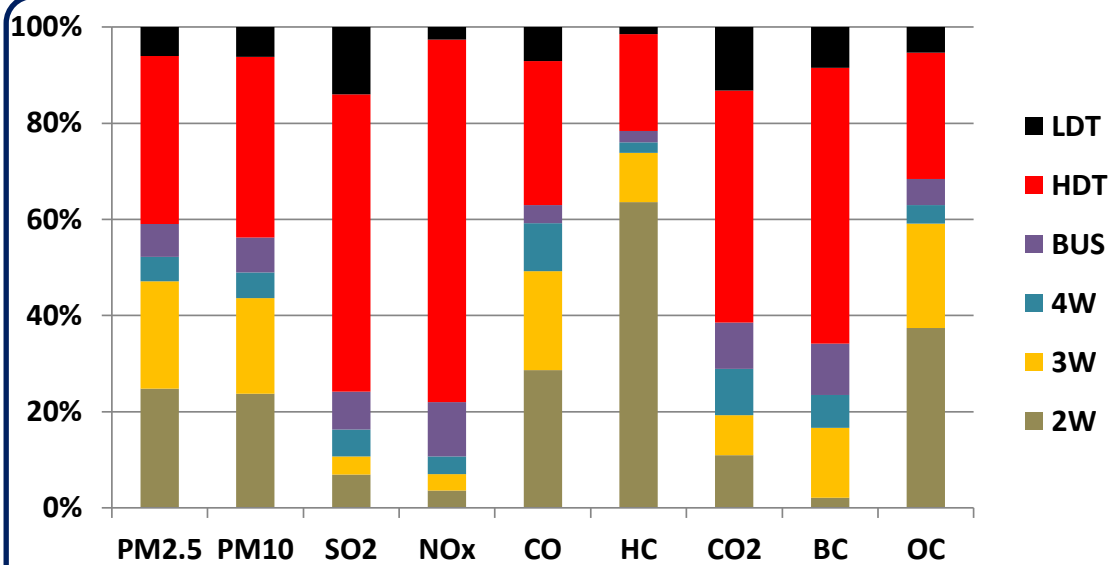


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

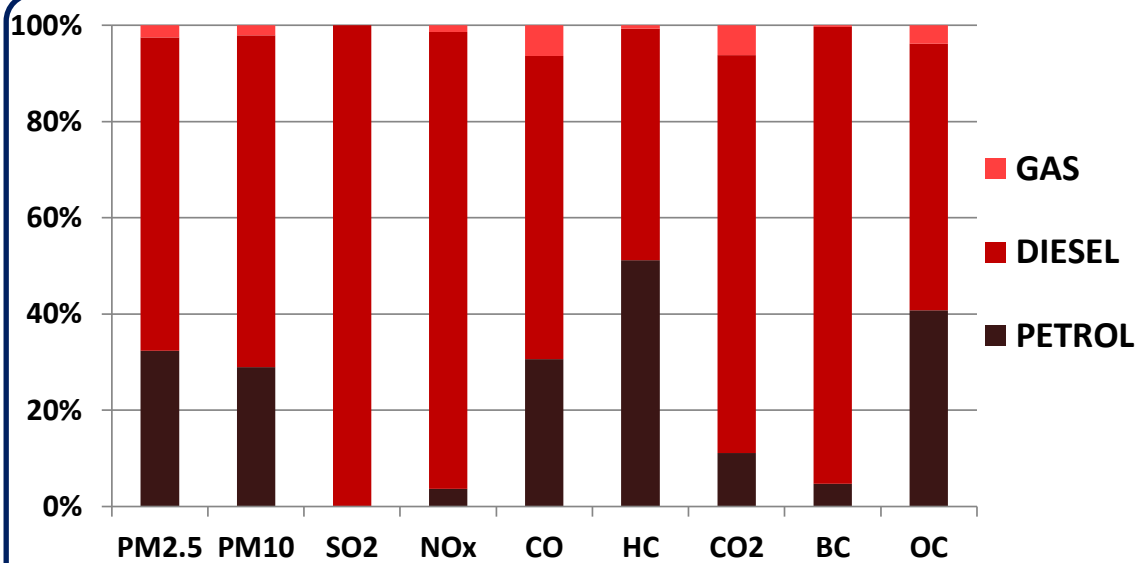
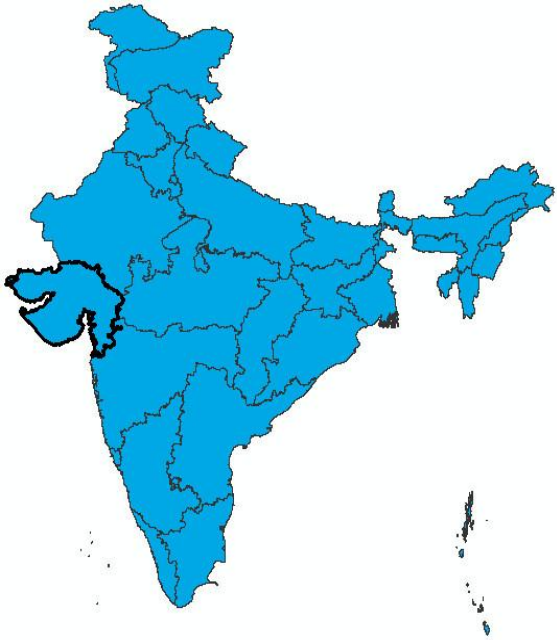
2010

STATE: GUJARAT

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	5,800	5,210	1,180	1,590	8,170	1,400	23,330	tons
PM10	6,870	5,760	1,570	2,090	10,890	1,790	28,950	tons
SO2	150	80	120	170	1,330	300	2,120	tons
NOx	9,970	9,380	10,320	31,050	208,570	7,180	276,450	tons
CO	98,950	71,180	34,670	12,940	103,560	24,460	345,740	tons
VOC	107,810	17,410	3,590	4,000	34,280	2,400	169,470	tons
CO2	2.5	1.9	2.2	2.2	11.0	3.0	22.5	mill tons
BC	120	830	390	610	3,270	480	5,680	tons
OC	3,480	2,020	360	500	2,450	490	9,290	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	7,540	15,190	600	-	23,330
PM10 (tons)	8,390	19,970	600	-	28,950
SO2 (tons)	-	2,120	-	-	2,120
NOx (tons)	10,170	262,550	3,740	-	276,450
CO (tons)	105,890	217,750	22,100	-	345,740
VOC (tons)	86,730	81,510	1,240	-	169,470
CO2 (mil tons)	2.5	18.7	1.4	-	22.5
BC (tons)	270	5,400	20	-	5,680
OC (tons)	3,790	5,140	360	-	9,290

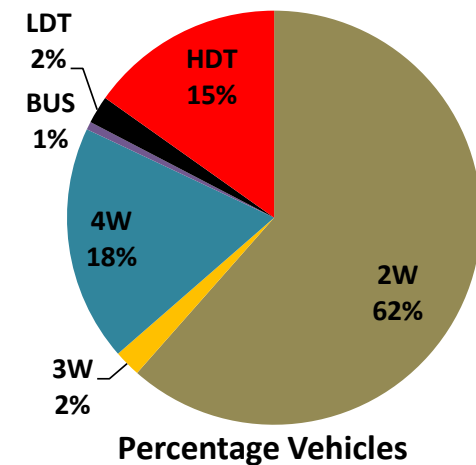
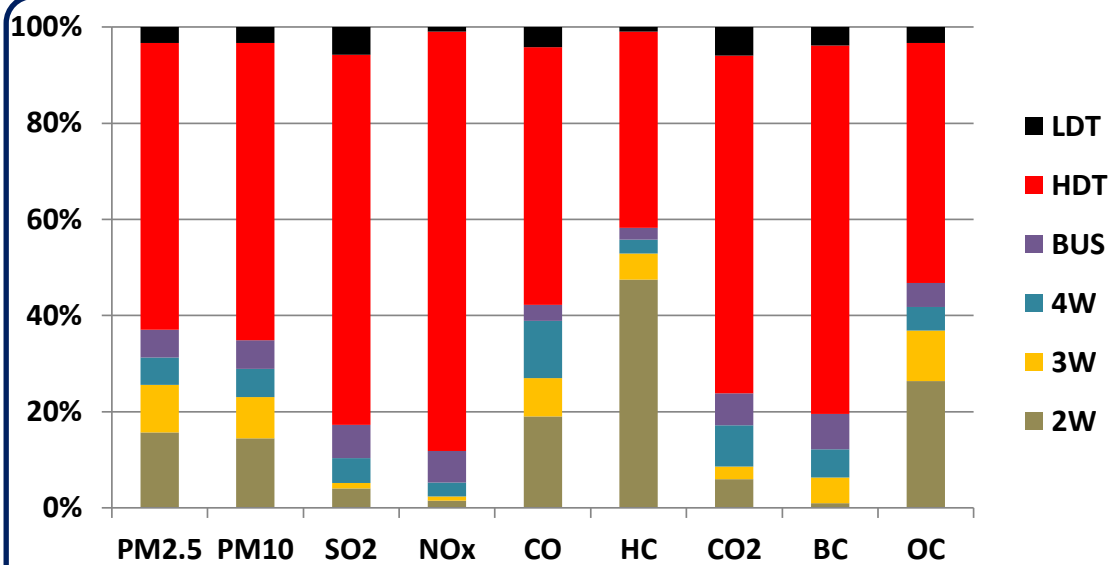


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

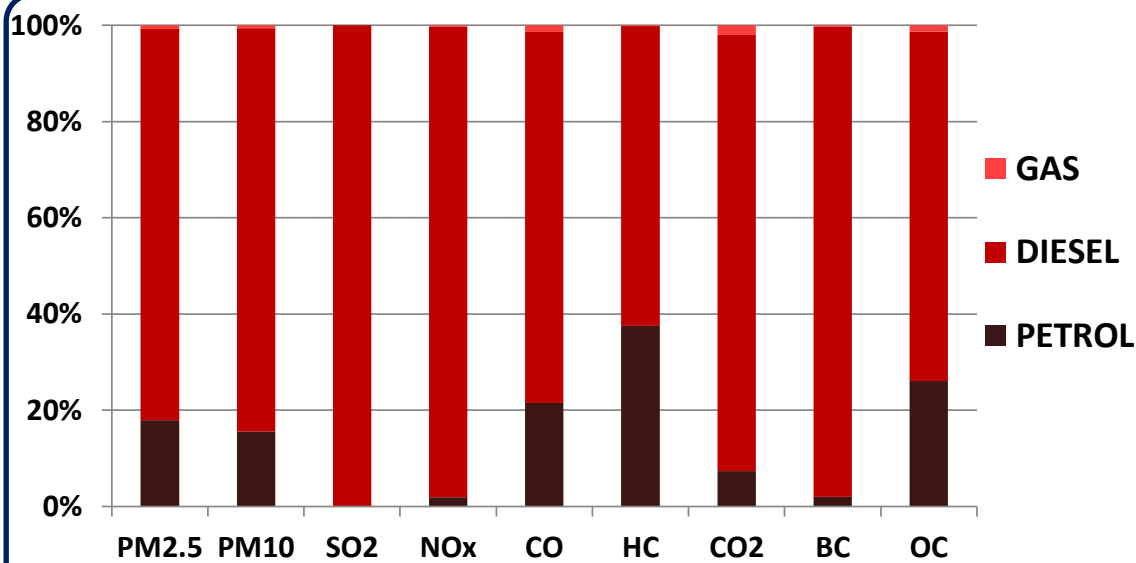
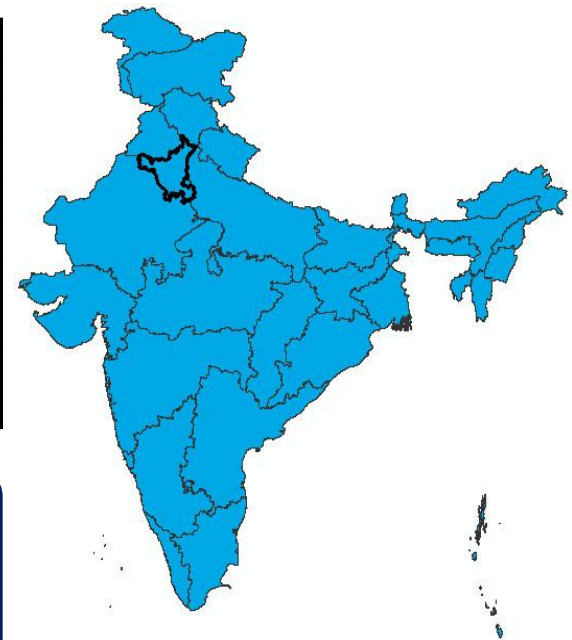
2010

STATE: HARYANA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,990	1,250	720	730	7,550	420	12,640	tons
PM10	2,360	1,390	960	970	10,060	540	16,250	tons
SO2	70	20	90	120	1,340	100	1,720	tons
NOx	3,420	1,960	6,400	14,440	193,230	2,130	221,540	tons
CO	33,870	14,210	21,370	5,840	95,620	7,420	178,310	tons
VOC	36,900	4,200	2,290	1,870	31,730	720	77,680	tons
CO2	0.9	0.4	1.3	1.0	10.6	0.9	14.9	mill tons
BC	40	210	230	290	3,020	150	3,910	tons
OC	1,200	480	220	230	2,270	150	4,510	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	2,270	10,280	100	-	12,640
PM10 (tons)	2,530	13,630	100	-	16,250
SO2 (tons)	-	1,720	-	-	1,720
NOx (tons)	4,250	216,660	640	-	221,540
CO (tons)	38,420	137,410	2,490	-	178,310
VOC (tons)	29,140	48,420	120	-	77,680
CO2 (mil tons)	1.1	13.6	0.3	-	14.9
BC (tons)	80	3,840	10	-	3,910
OC (tons)	1,180	3,290	60	-	4,510

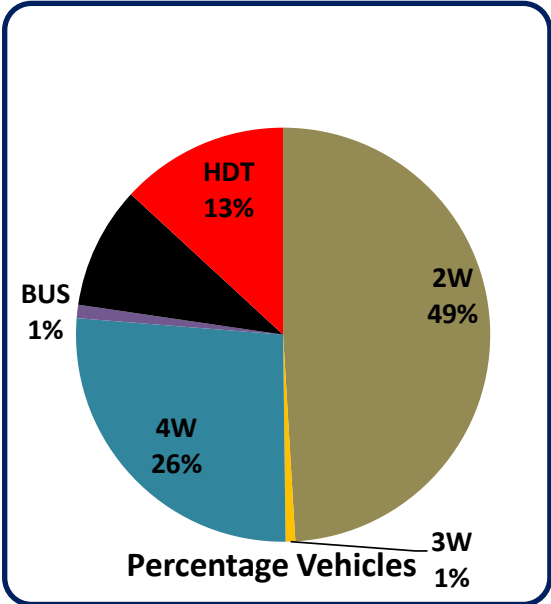
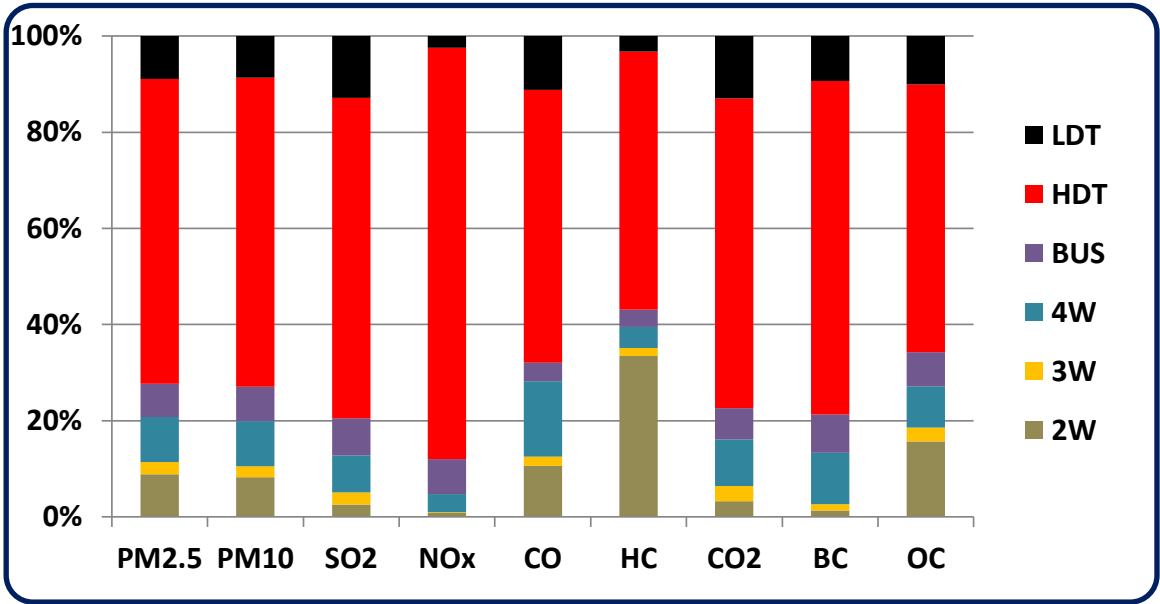


PM = particulate matter; PM2.5 = PM less than 2.5 μ m diameter; PM10 = PM less than 10 μ m; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

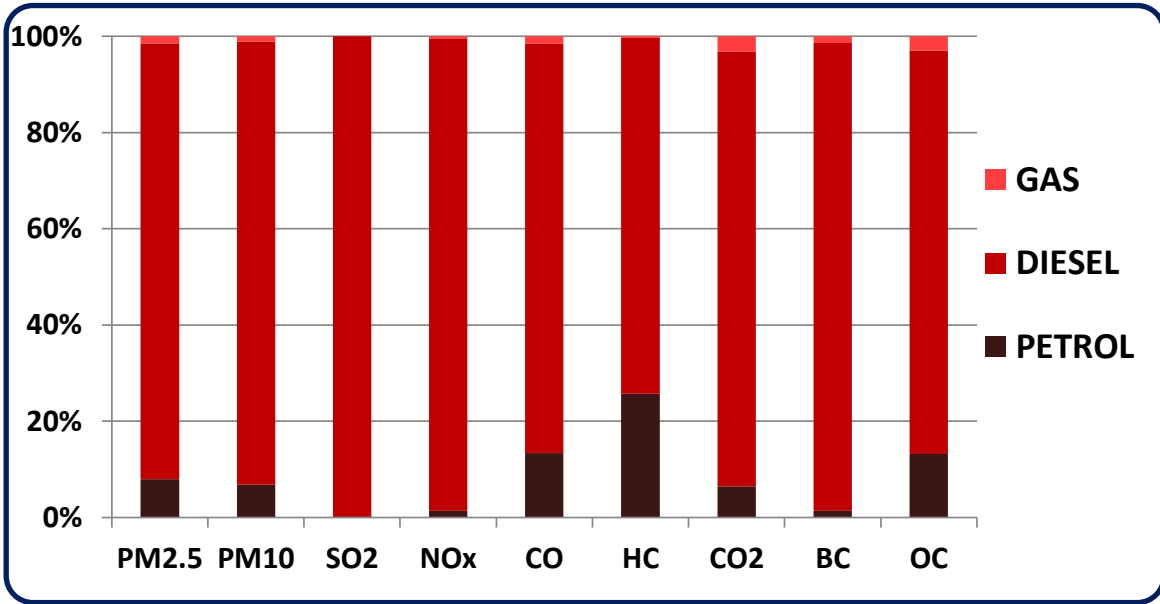
2010

STATE: HIMACHAL PRADESH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	180	50	190	140	1,280	180	2,010	tons
PM10	220	60	250	190	1,710	230	2,630	tons
SO2	10	10	30	30	260	50	350	tons
NOx	310	80	1,420	2,770	32,550	920	38,040	tons
CO	3,060	540	4,520	1,120	16,320	3,230	28,770	tons
VOC	3,340	160	440	360	5,350	320	9,950	tons
CO2	0.1	0.1	0.3	0.2	2.0	0.4	3.0	mill tons
BC	10	10	80	60	520	70	710	tons
OC	110	20	60	50	390	70	670	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	160	1,820	30	-	2,010
PM10 (tons)	180	2,430	30	-	2,630
SO2 (tons)	-	350	-	-	350
NOx (tons)	520	37,350	180	-	38,040
CO (tons)	3,850	24,490	440	-	28,770
VOC (tons)	2,560	7,360	30	-	9,950
CO2 (mil tons)	0.2	2.8	0.1	-	3.0
BC (tons)	10	710	10	-	710
OC (tons)	90	570	20	-	670

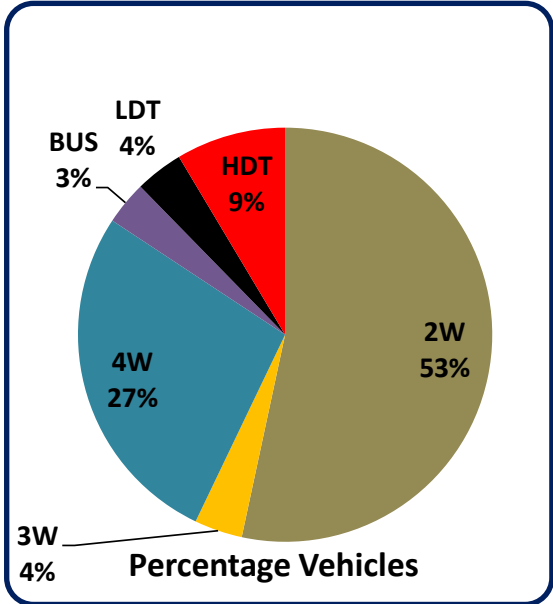
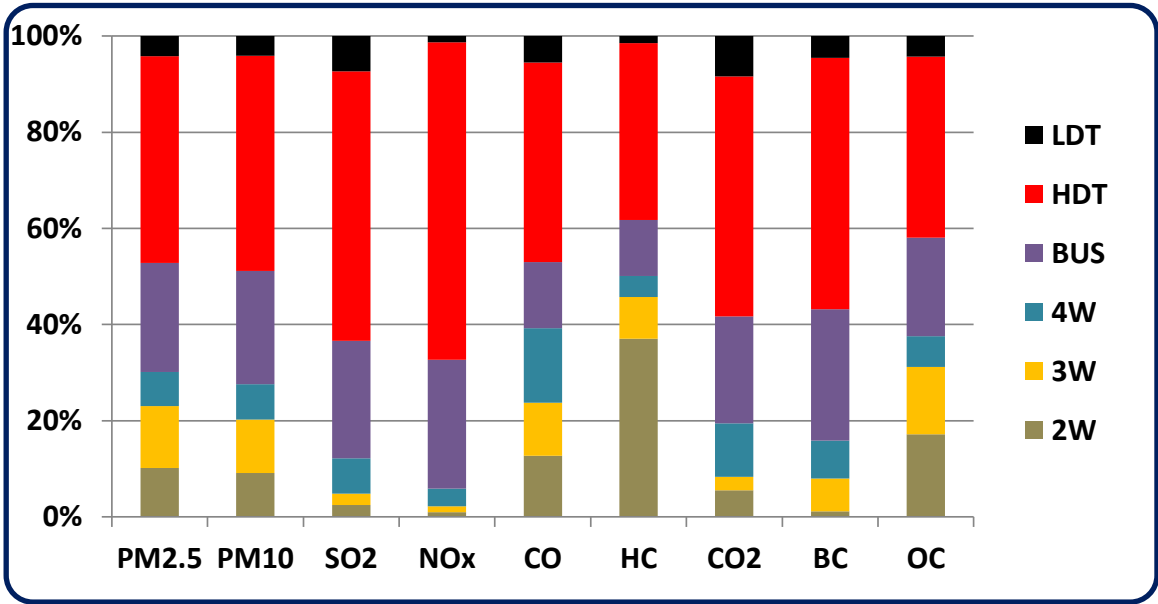


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

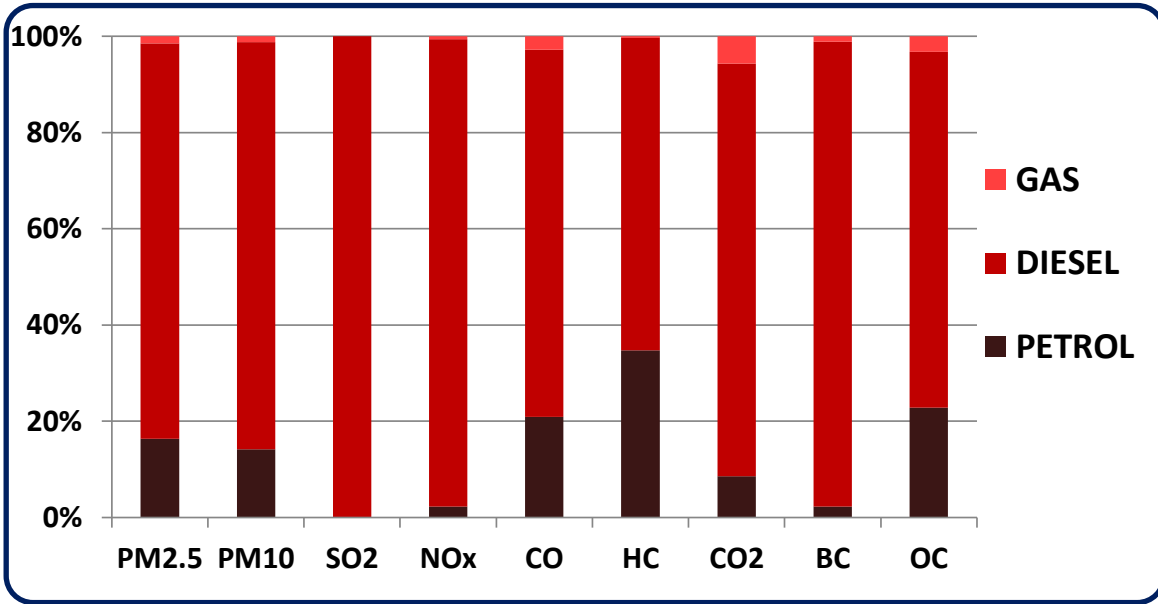
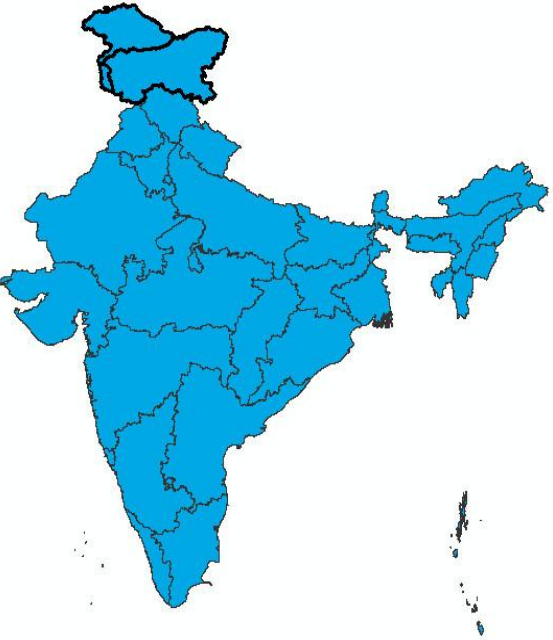
2010

STATE: JAMMU AND KASHMIR

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	270	340	190	600	1,140	110	2,630	tons
PM10	310	380	250	800	1,520	140	3,380	tons
SO2	10	10	30	100	230	30	380	tons
NOx	450	530	1,620	11,870	29,260	550	44,260	tons
CO	4,450	3,830	5,410	4,810	14,480	1,910	34,860	tons
VOC	4,840	1,130	570	1,530	4,800	190	13,050	tons
CO2	0.2	0.1	0.4	0.8	1.8	0.3	3.4	mill tons
BC	10	60	70	240	460	40	860	tons
OC	160	130	60	190	350	40	910	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	430	2,160	40	-	2,630
PM10 (tons)	480	2,870	40	-	3,380
SO2 (tons)	-	380	-	-	380
NOx (tons)	980	43,030	250	-	44,260
CO (tons)	7,290	26,590	980	-	34,860
VOC (tons)	4,530	8,490	40	-	13,050
CO2 (mil tons)	0.3	3.0	0.2	-	3.4
BC (tons)	20	840	10	-	860
OC (tons)	210	680	30	-	910

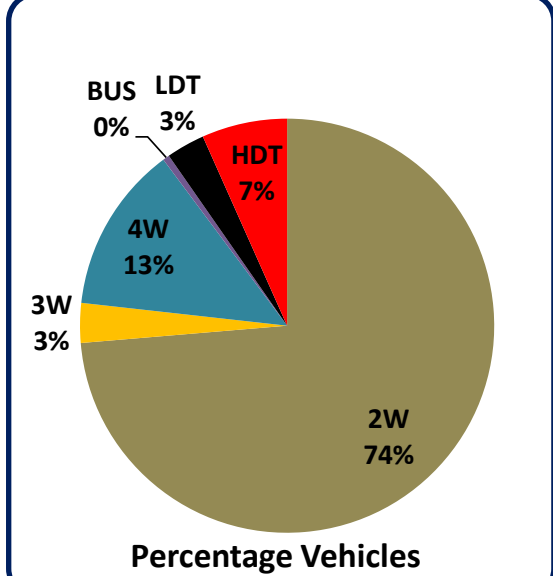
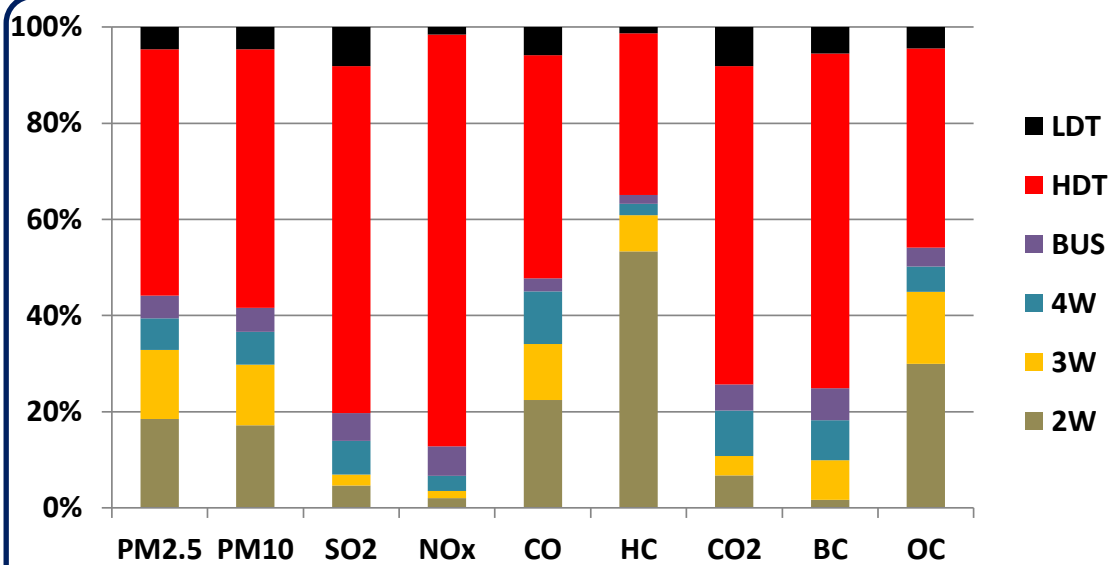


PM = particulate matter; PM2.5 = PM less than 2.5 μ m diameter; PM10 = PM less than 10 μ m; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

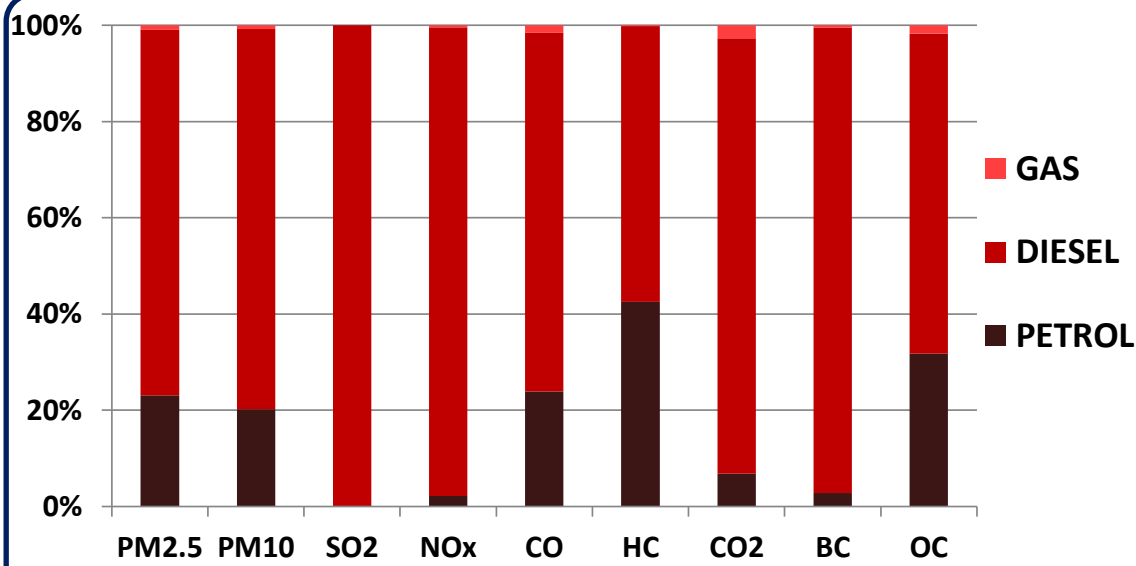
2010

STATE: JHARKHAND

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,130	880	400	290	3,130	280	6,100	tons
PM10	1,340	980	530	390	4,180	360	7,750	tons
SO2	40	20	60	50	620	70	830	tons
NOx	1,940	1,380	2,980	5,730	80,480	1,440	93,910	tons
CO	19,220	10,010	9,400	2,320	39,750	5,000	85,680	tons
VOC	20,940	2,960	910	740	13,200	490	39,210	tons
CO2	0.5	0.3	0.7	0.4	4.9	0.6	7.2	mill tons
BC	30	150	150	120	1,260	100	1,780	tons
OC	680	340	120	90	940	100	2,250	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	1,410	4,630	60	-	6,100
PM10 (tons)	1,570	6,130	60	-	7,750
SO2 (tons)	-	830	-	-	830
NOx (tons)	2,000	91,550	370	-	93,910
CO (tons)	20,420	63,920	1,350	-	85,680
VOC (tons)	16,670	22,470	80	-	39,210
CO2 (mil tons)	0.5	6.6	0.2	-	7.2
BC (tons)	50	1,730	10	-	1,780
OC (tons)	720	1,510	40	-	2,250

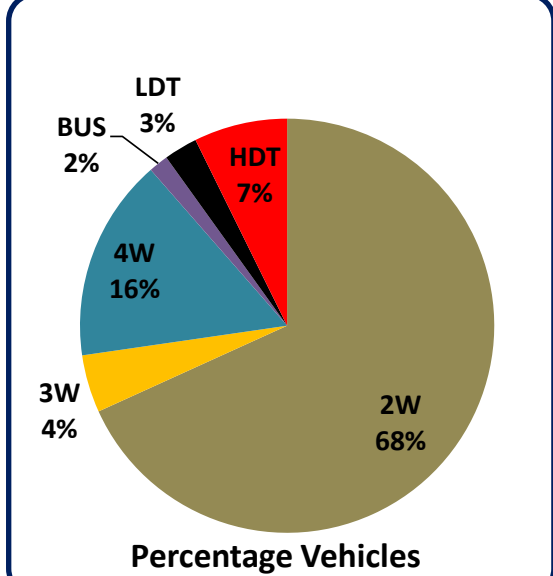
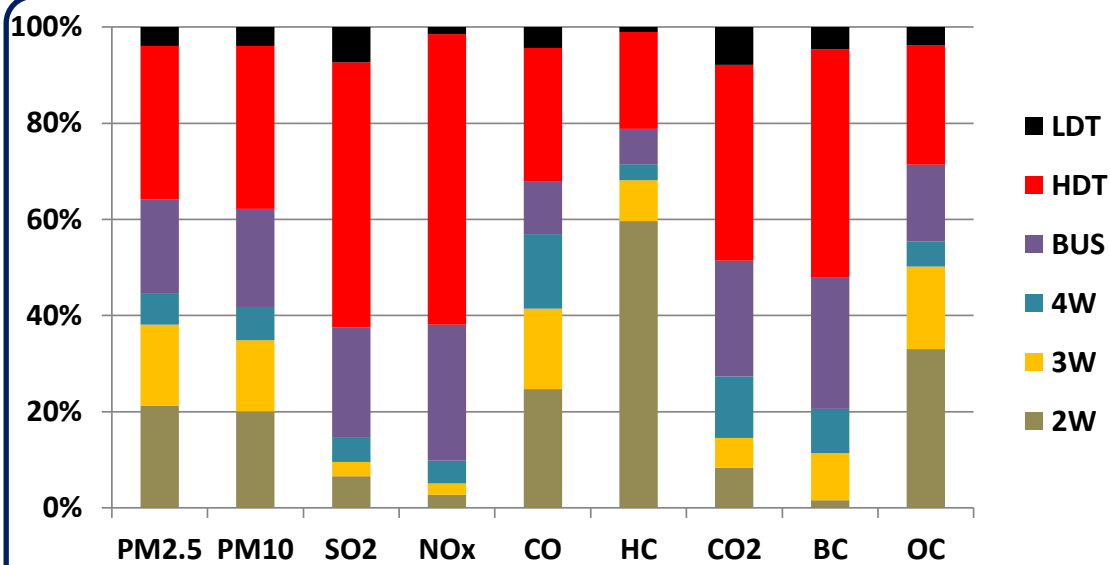


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

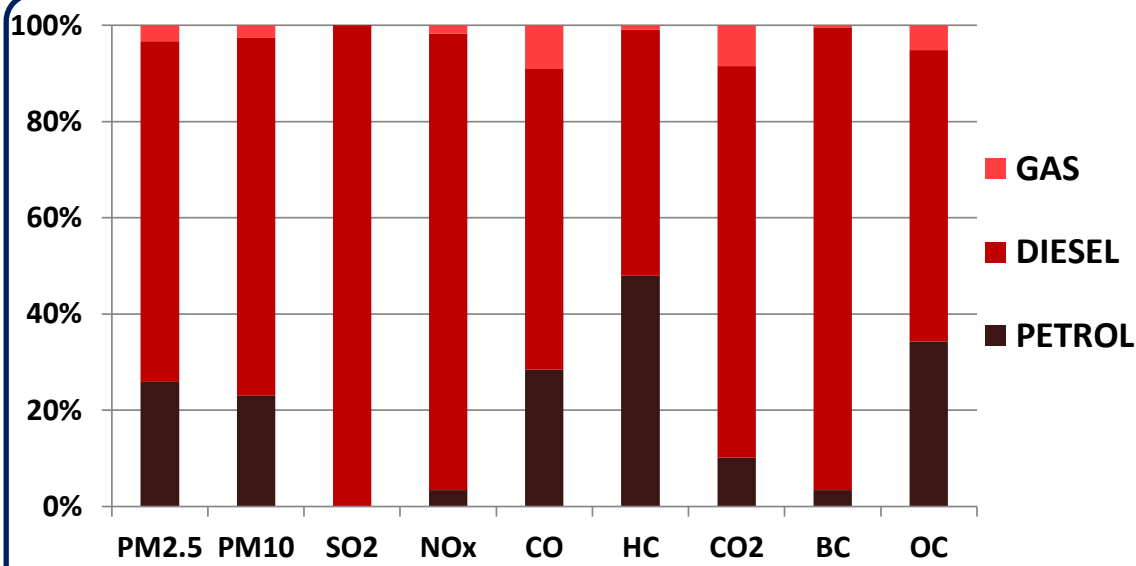
2010

STATE: KARNATAKA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	3,440	2,720	1,060	3,160	5,160	630	16,160	tons
PM10	4,080	3,000	1,410	4,150	6,880	800	20,300	tons
SO2	90	40	70	310	750	100	1,330	tons
NOx	5,920	5,150	10,280	61,520	131,410	3,220	217,470	tons
CO	58,690	39,560	36,820	26,050	65,630	10,330	237,050	tons
VOC	63,940	9,080	3,600	7,920	21,610	1,050	107,180	tons
CO2	1.5	1.1	2.3	4.3	7.3	1.4	17.7	mill tons
BC	70	430	400	1,200	2,070	200	4,350	tons
OC	2,070	1,070	330	1,000	1,550	240	6,230	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	4,190	11,450	530	-	16,160
PM10 (tons)	4,660	15,110	530	-	20,300
SO2 (tons)	-	1,330	-	-	1,330
NOx (tons)	7,380	206,350	3,750	-	217,470
CO (tons)	67,390	148,180	21,490	-	237,050
VOC (tons)	51,360	54,900	930	-	107,180
CO2 (mil tons)	1.8	14.4	1.5	-	17.7
BC (tons)	150	4,200	20	-	4,350
OC (tons)	2,140	3,780	320	-	6,230

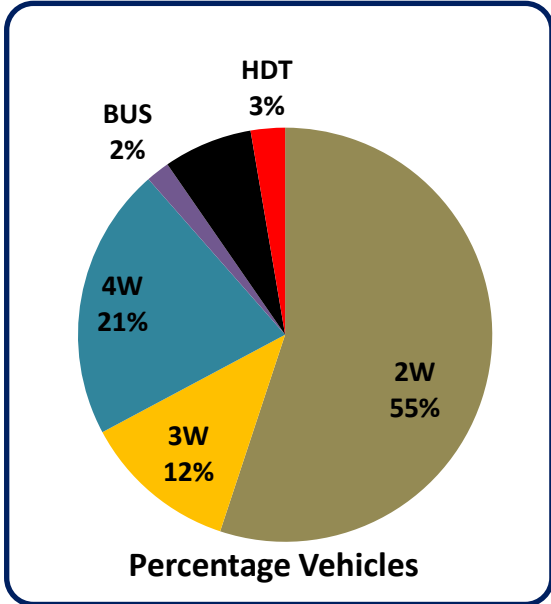
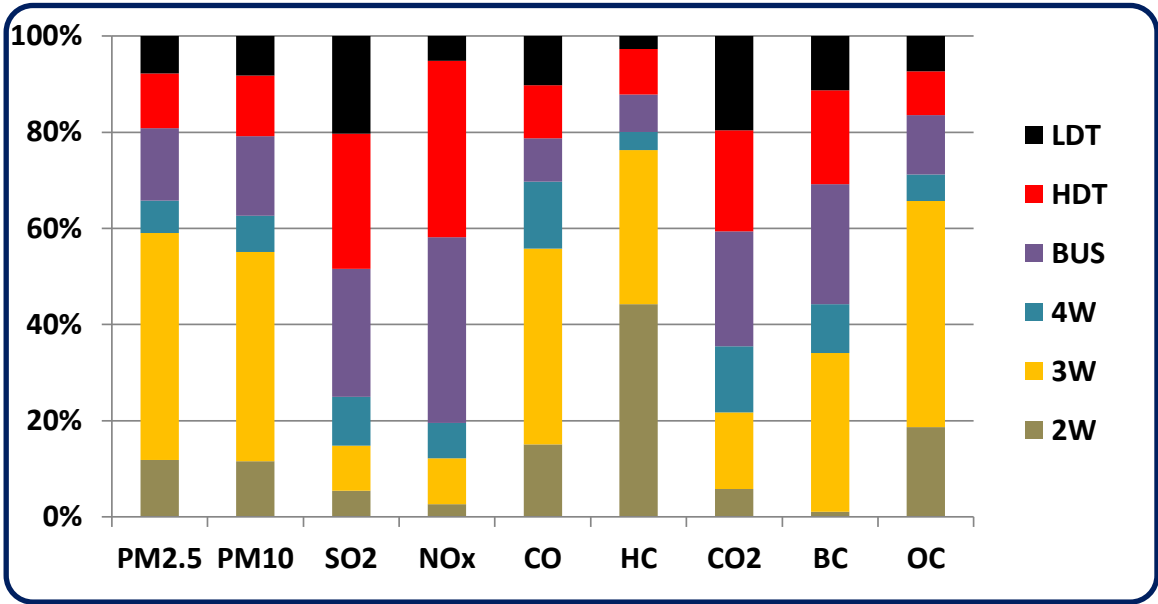


PM = particulate matter; PM2.5 = PM less than 2.5 μ m diameter; PM10 = PM less than 10 μ m; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

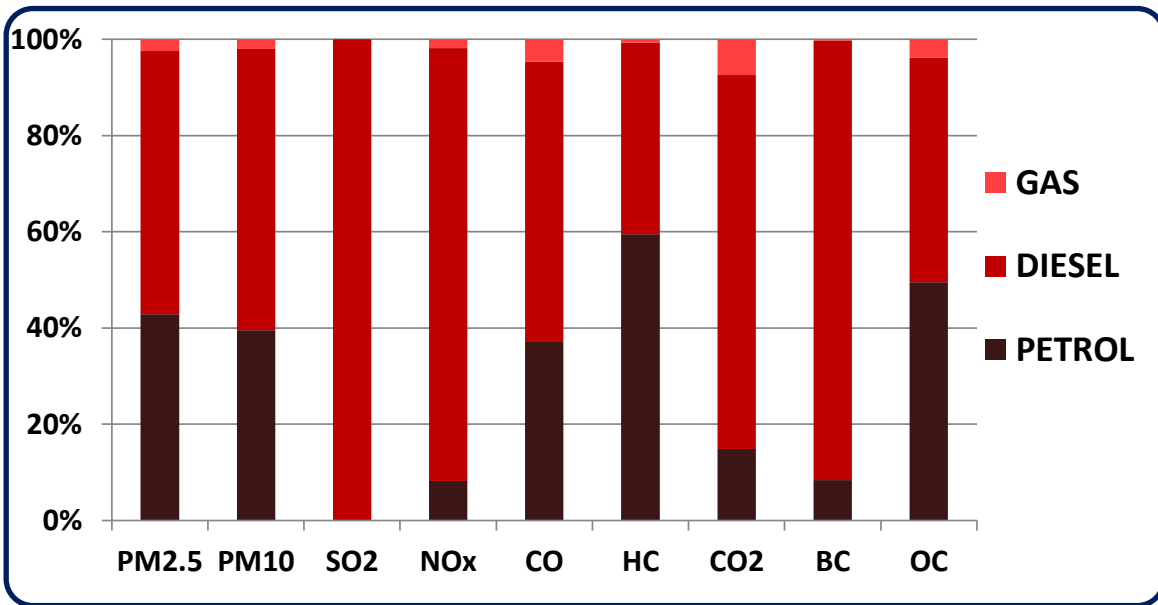
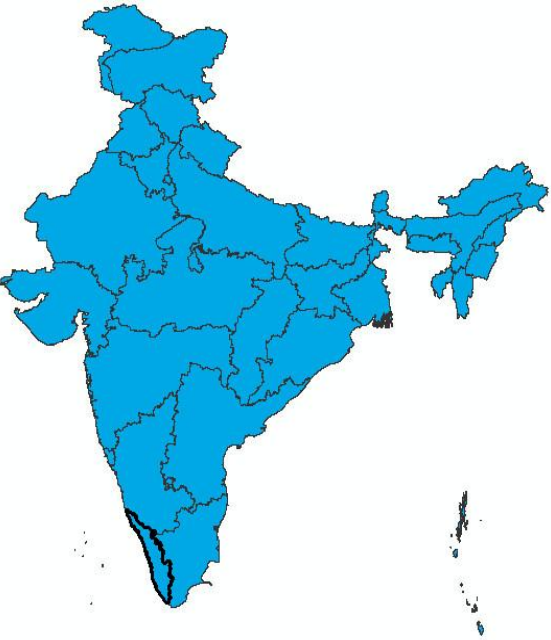
2010

STATE: KERALA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,880	7,520	1,080	2,400	1,810	1,240	15,910	tons
PM10	2,220	8,350	1,440	3,180	2,410	1,580	19,160	tons
SO2	70	120	130	340	360	260	1,260	tons
NOx	3,220	11,840	8,960	47,550	45,140	6,340	123,030	tons
CO	31,960	86,350	29,430	19,240	23,390	21,570	211,930	tons
VOC	34,830	25,250	2,980	6,130	7,470	2,120	78,750	tons
CO2	0.8	2.2	1.9	3.3	2.9	2.7	13.4	mill tons
BC	40	1,230	380	930	730	420	3,700	tons
OC	1,130	2,840	330	750	550	440	6,010	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	6,820	8,710	390	-	15,910
PM10 (tons)	7,580	11,200	390	-	19,160
SO2 (tons)	-	1,260	-	-	1,260
NOx (tons)	10,100	110,650	2,280	-	123,030
CO (tons)	78,890	123,290	9,750	-	211,930
VOC (tons)	46,870	31,320	570	-	78,750
CO2 (mil tons)	2.0	10.5	1.0	-	13.4
BC (tons)	310	3,390	10	-	3,700
OC (tons)	2,980	2,810	230	-	6,010

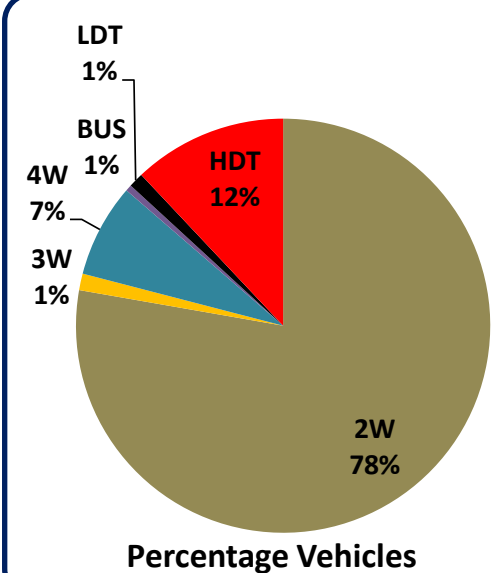
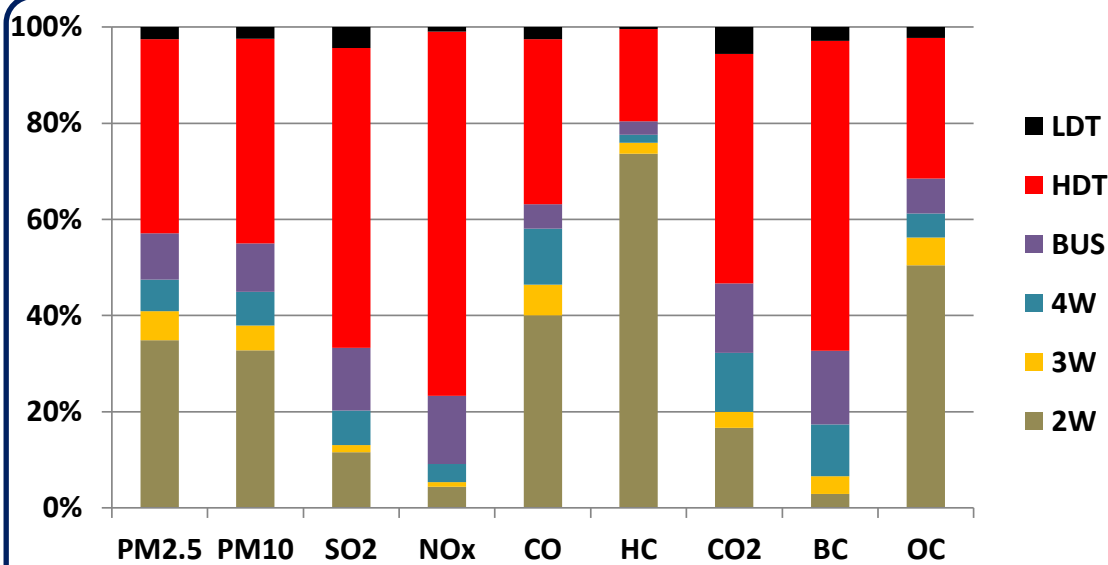


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

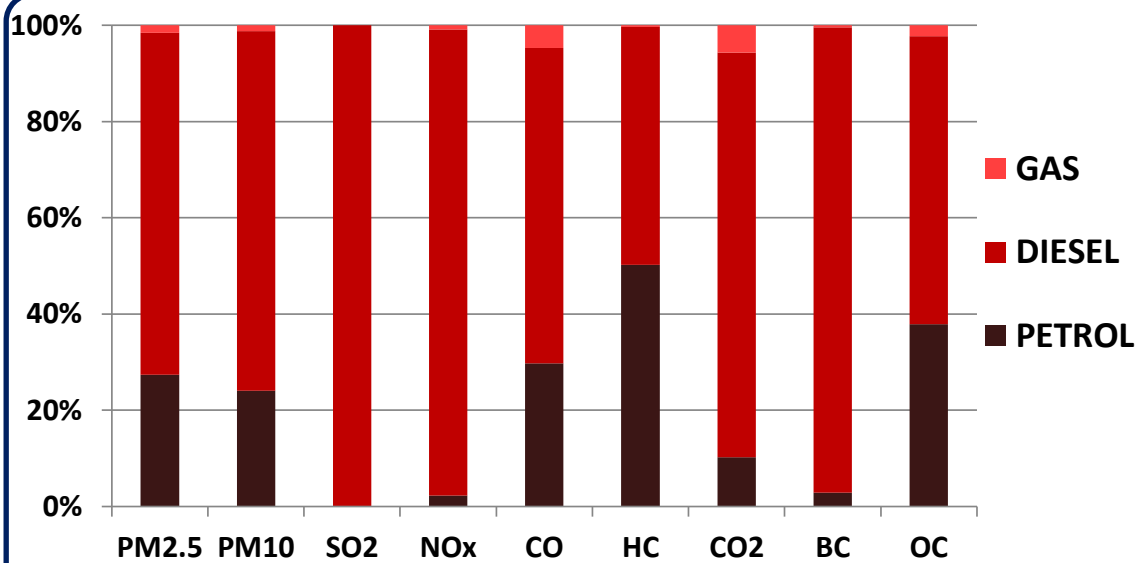
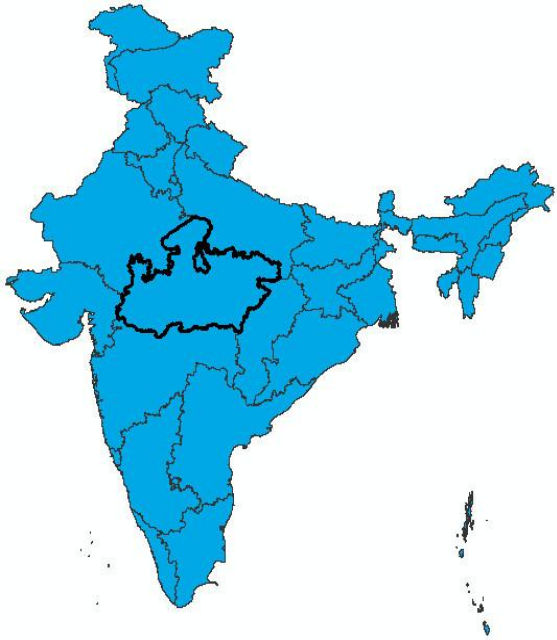
2010

STATE: MADHYA PRADESH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	3,370	580	640	930	3,900	240	9,620	tons
PM10	3,990	640	850	1,230	5,190	290	12,170	tons
SO2	80	10	50	90	430	30	670	tons
NOx	5,790	1,180	4,980	18,420	98,880	1,170	130,400	tons
CO	57,400	9,220	16,700	7,270	49,170	3,590	143,330	tons
VOC	62,540	1,930	1,410	2,380	16,280	380	84,900	tons
CO2	1.5	0.3	1.1	1.3	4.3	0.5	8.8	mill tons
BC	70	90	260	370	1,560	70	2,400	tons
OC	2,020	230	200	290	1,170	90	3,980	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	2,640	6,840	150	-	9,620
PM10 (tons)	2,930	9,090	150	-	12,170
SO2 (tons)	-	670	-	-	670
NOx (tons)	2,950	126,270	1,190	-	130,400
CO (tons)	42,590	93,990	6,760	-	143,330
VOC (tons)	42,660	41,960	290	-	84,900
CO2 (mil tons)	0.9	7.4	0.5	-	8.8
BC (tons)	70	2,340	10	-	2,400
OC (tons)	1,510	2,390	90	-	3,980

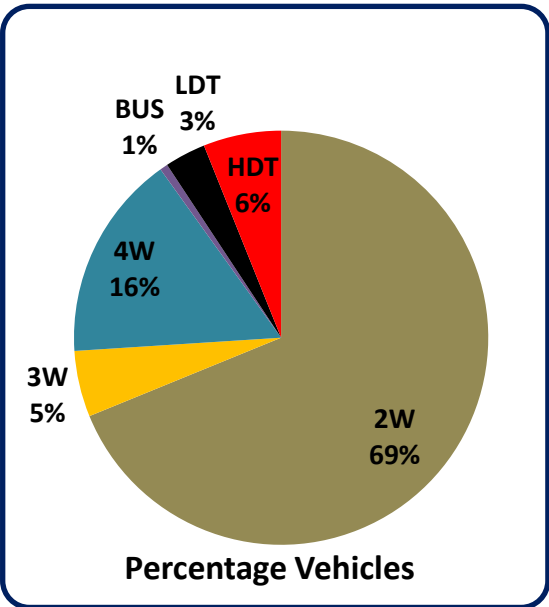
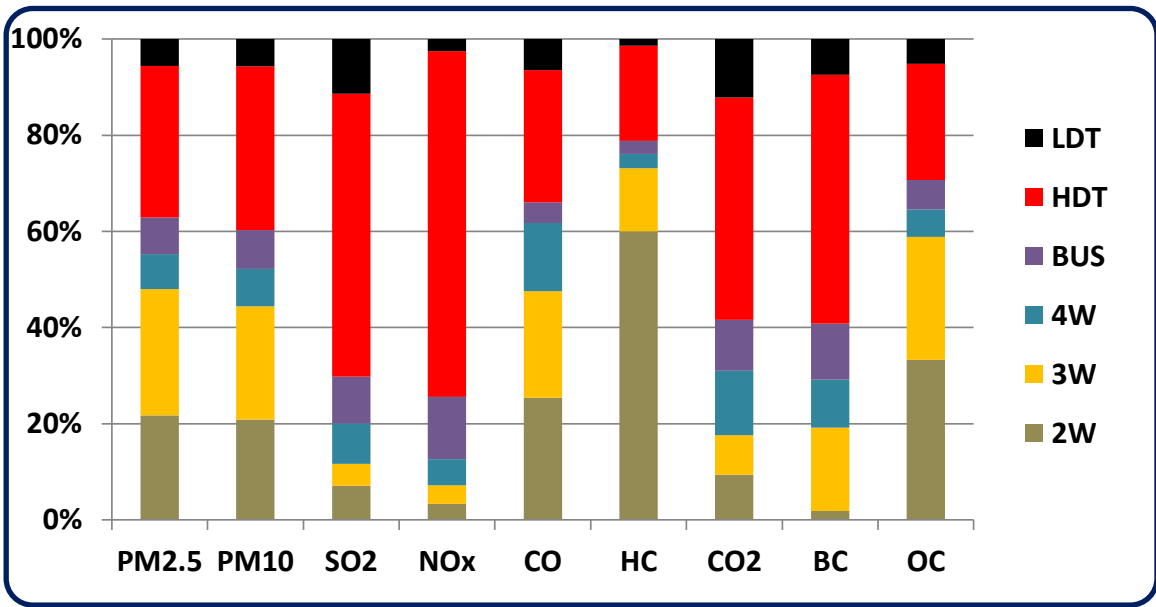


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

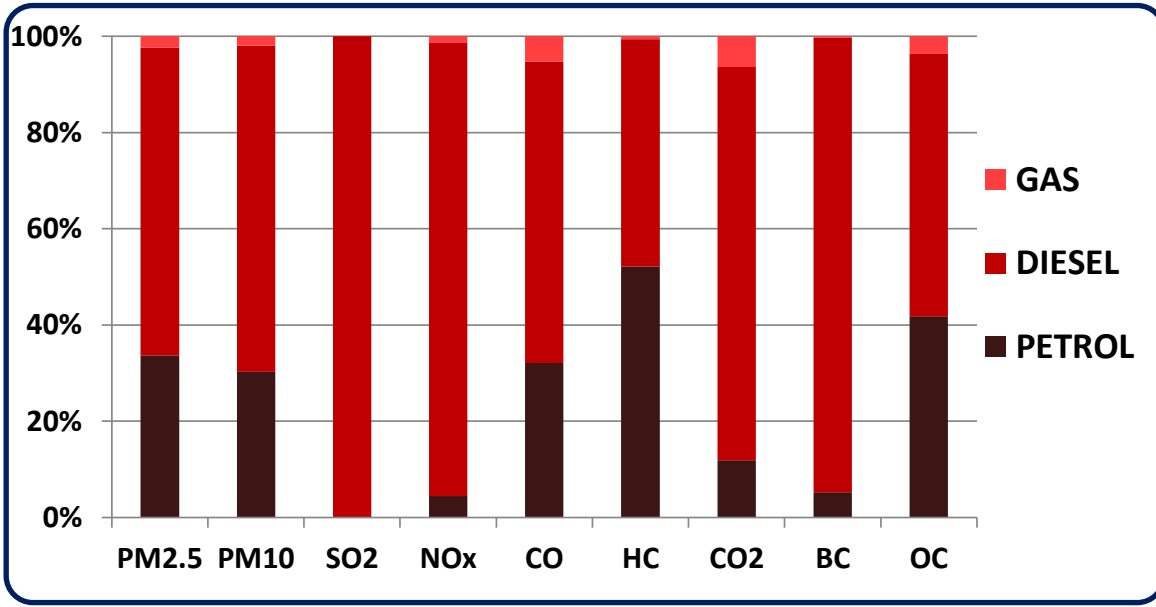
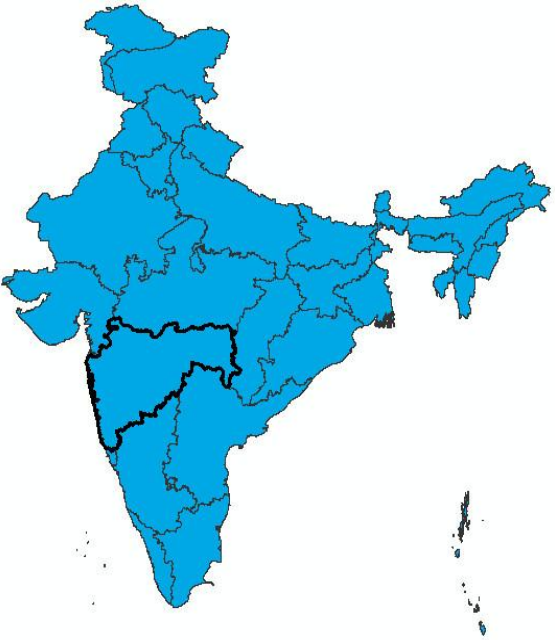
2010

STATE: MAHARASHTRA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	7,320	8,860	2,470	2,540	10,650	1,870	33,690	tons
PM10	8,680	9,820	3,280	3,330	14,200	2,370	41,650	tons
SO2	220	140	260	300	1,820	350	3,060	tons
NOx	12,590	14,650	20,800	49,180	272,680	9,560	379,440	tons
CO	124,940	108,540	69,700	21,020	135,100	31,520	490,800	tons
VOC	136,130	29,700	6,750	6,330	44,770	3,150	226,810	tons
CO2	3.1	2.7	4.4	3.5	15.2	4.0	32.8	mill tons
BC	150	1,430	820	960	4,260	610	8,210	tons
OC	4,400	3,380	750	810	3,200	680	13,190	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	11,350	21,560	790	-	33,690
PM10 (tons)	12,620	28,250	790	-	41,650
SO2 (tons)	-	3,060	-	-	3,060
NOx (tons)	16,900	357,340	5,220	-	379,440
CO (tons)	157,550	307,340	25,930	-	490,800
VOC (tons)	118,160	107,350	1,310	-	226,810
CO2 (mil tons)	3.9	26.9	2.1	-	32.8
BC (tons)	430	7,780	20	-	8,210
OC (tons)	5,520	7,200	480	-	13,190

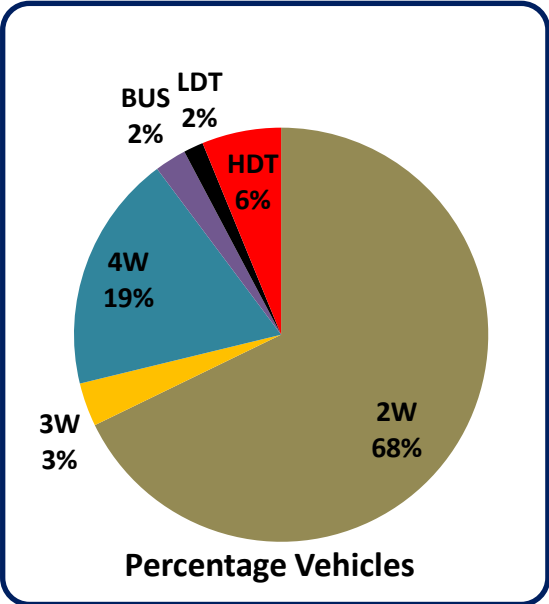
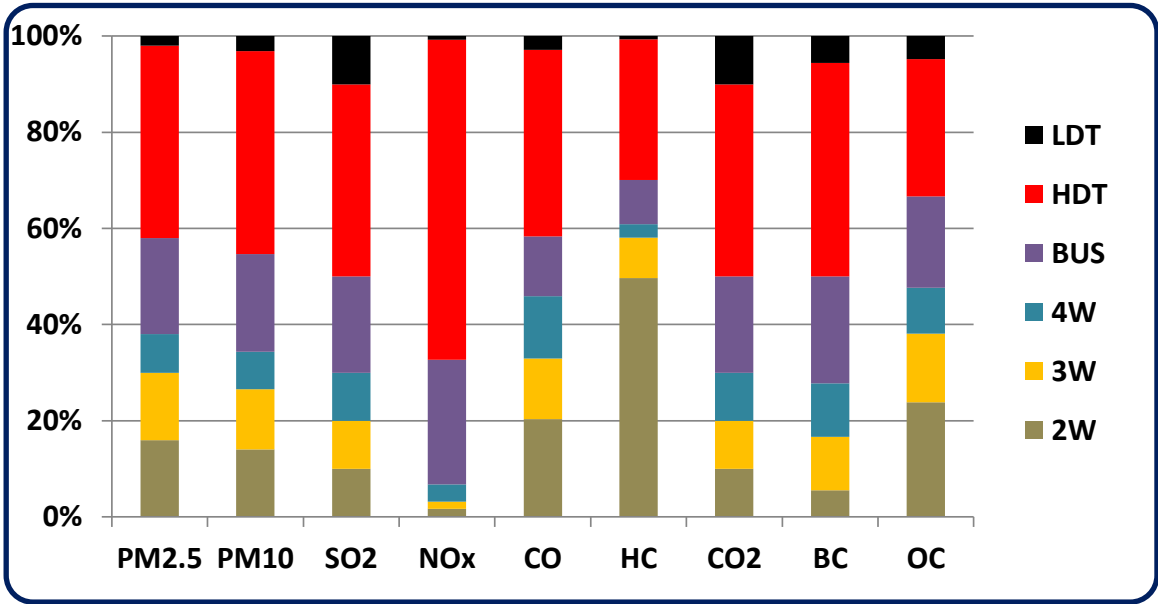


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

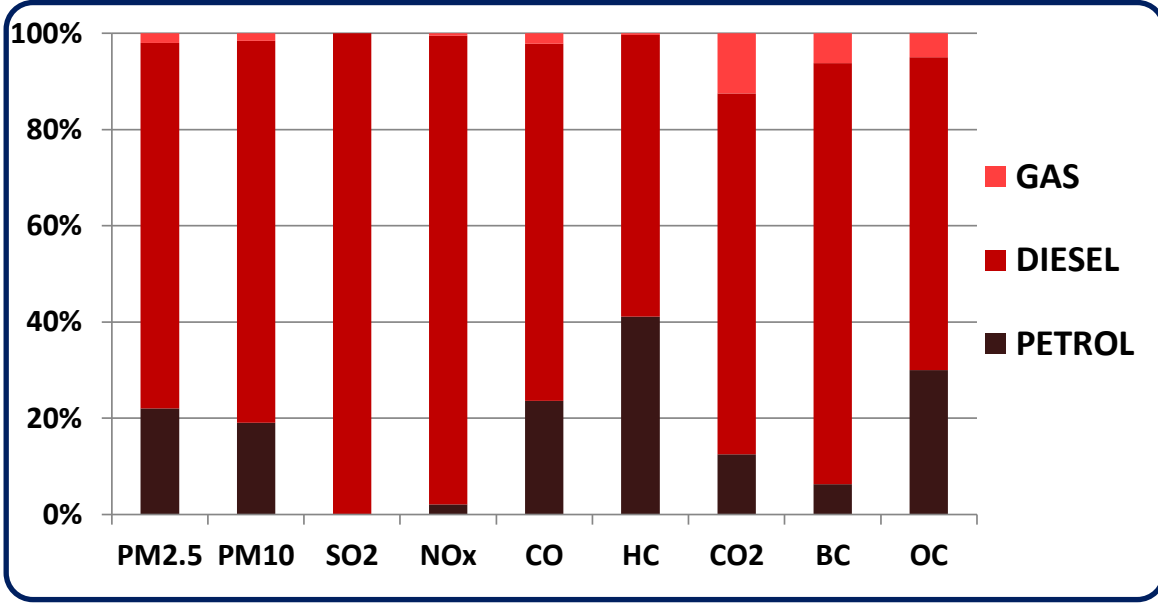
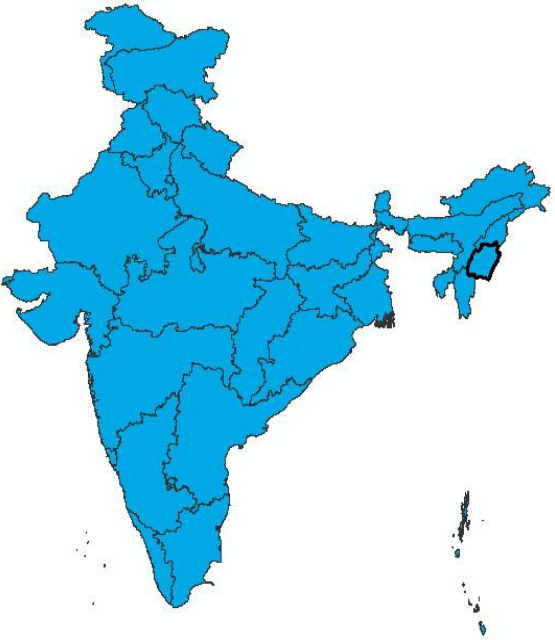
2010

STATE: MANIPUR

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	80	70	40	100	200	10	490	tons
PM10	90	80	50	130	270	20	620	tons
SO2	10	10	10	20	40	10	70	tons
NOx	130	110	270	1,950	5,010	60	7,520	tons
CO	1,300	800	830	790	2,480	180	6,350	tons
VOC	1,410	240	80	260	830	20	2,810	tons
CO2	0.1	0.1	0.1	0.2	0.4	0.1	0.6	mill tons
BC	10	20	20	40	80	10	150	tons
OC	50	30	20	40	60	10	180	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	110	380	10	-	490
PM10 (tons)	120	500	10	-	620
SO2 (tons)	-	70	-	-	70
NOx (tons)	160	7,330	40	-	7,520
CO (tons)	1,500	4,720	140	-	6,350
VOC (tons)	1,160	1,650	10	-	2,810
CO2 (mil tons)	0.1	0.6	0.1	-	0.6
BC (tons)	10	140	10	-	150
OC (tons)	60	130	10	-	180

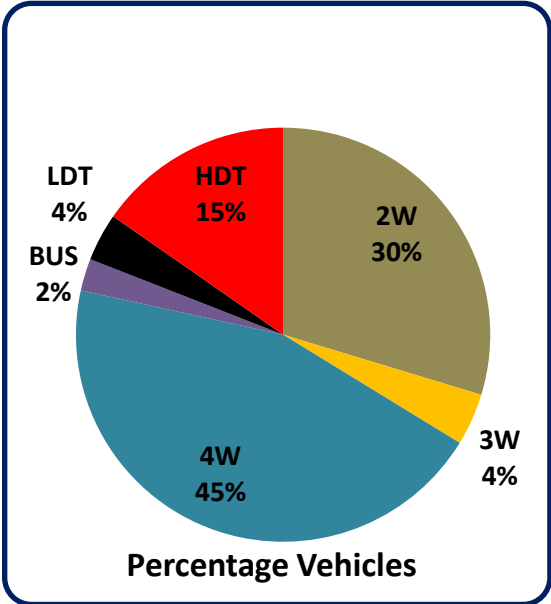
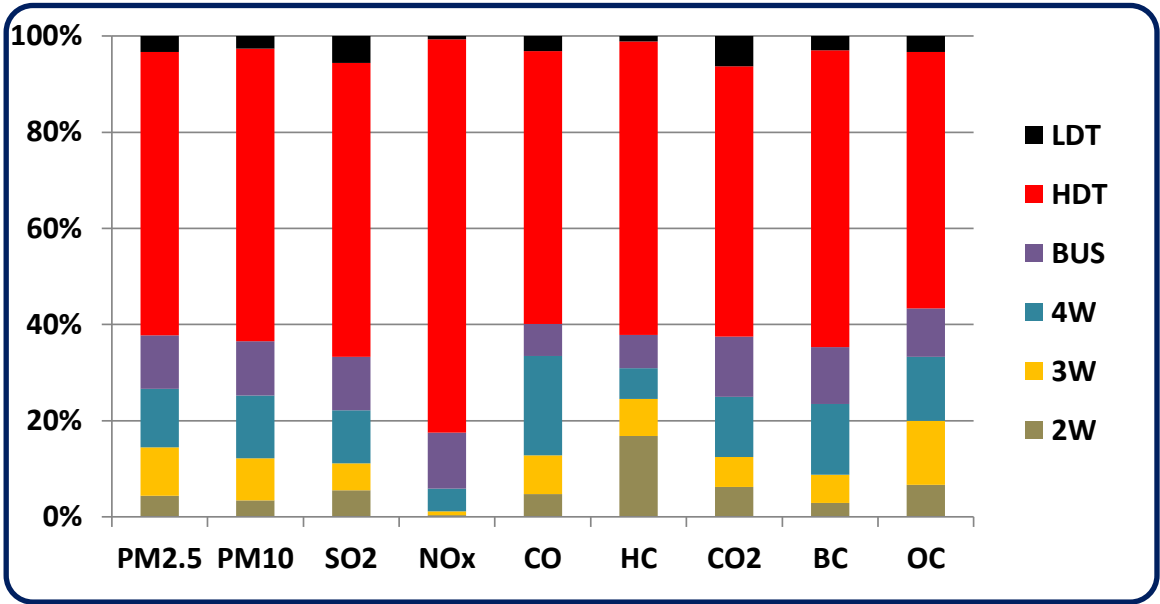


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

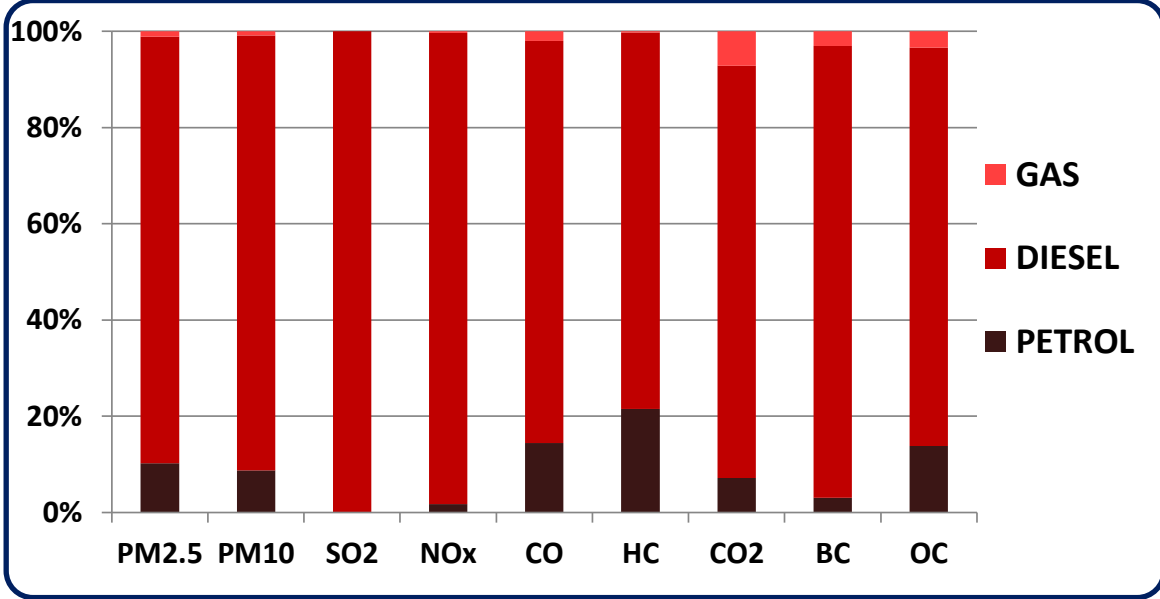
2010

STATE: MEGHALAYA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	40	90	110	100	530	30	870	tons
PM10	40	100	150	130	700	30	1,130	tons
SO2	10	10	20	20	110	10	140	tons
NOx	60	130	780	1,910	13,450	110	16,430	tons
CO	560	950	2,430	780	6,670	370	11,730	tons
VOC	610	280	230	250	2,210	40	3,610	tons
CO2	0.1	0.1	0.2	0.2	0.9	0.1	1.2	mill tons
BC	10	20	50	40	210	10	310	tons
OC	20	40	40	30	160	10	280	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	90	780	10	-	870
PM10 (tons)	100	1,030	10	-	1,130
SO2 (tons)	-	140	-	-	140
NOx (tons)	280	16,100	60	-	16,430
CO (tons)	1,690	9,810	240	-	11,730
VOC (tons)	780	2,830	10	-	3,610
CO2 (mil tons)	0.1	1.2	0.1	-	1.2
BC (tons)	10	310	10	-	310
OC (tons)	40	240	10	-	280

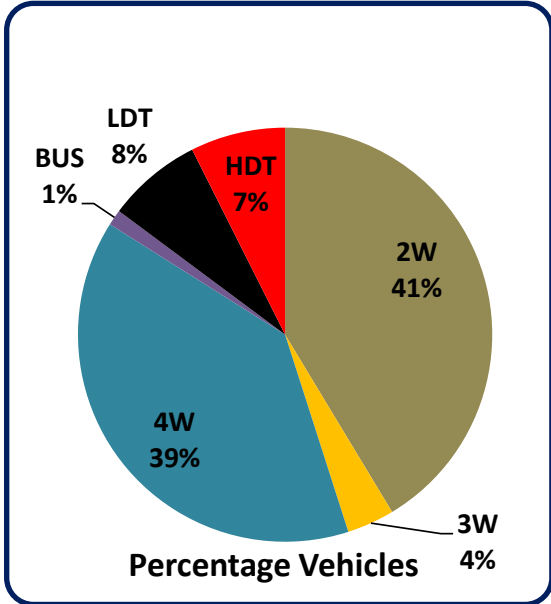
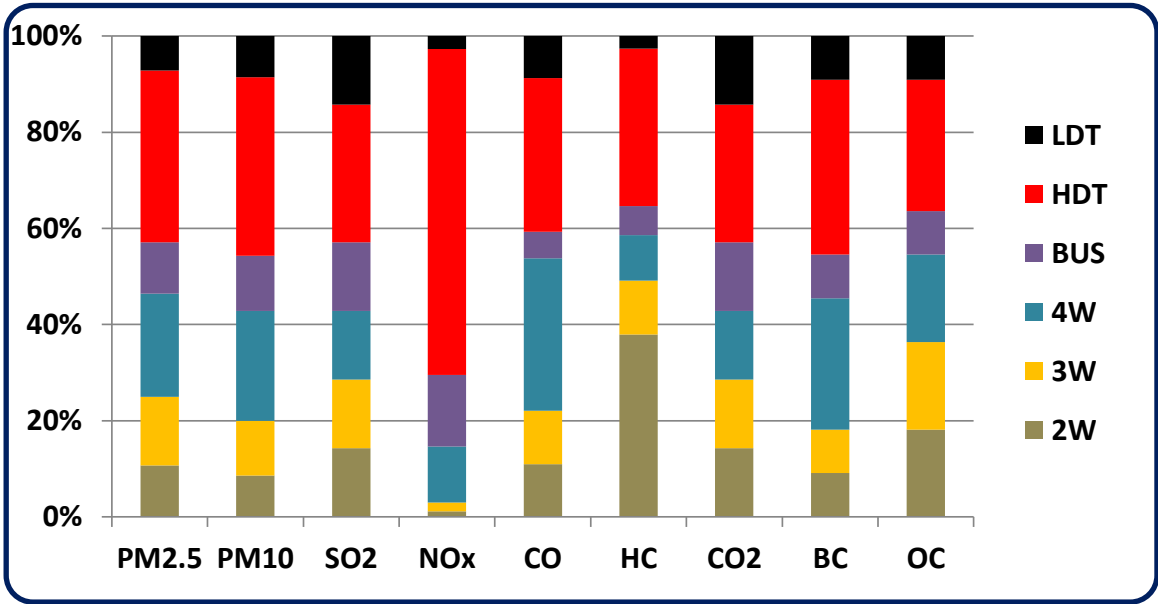


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

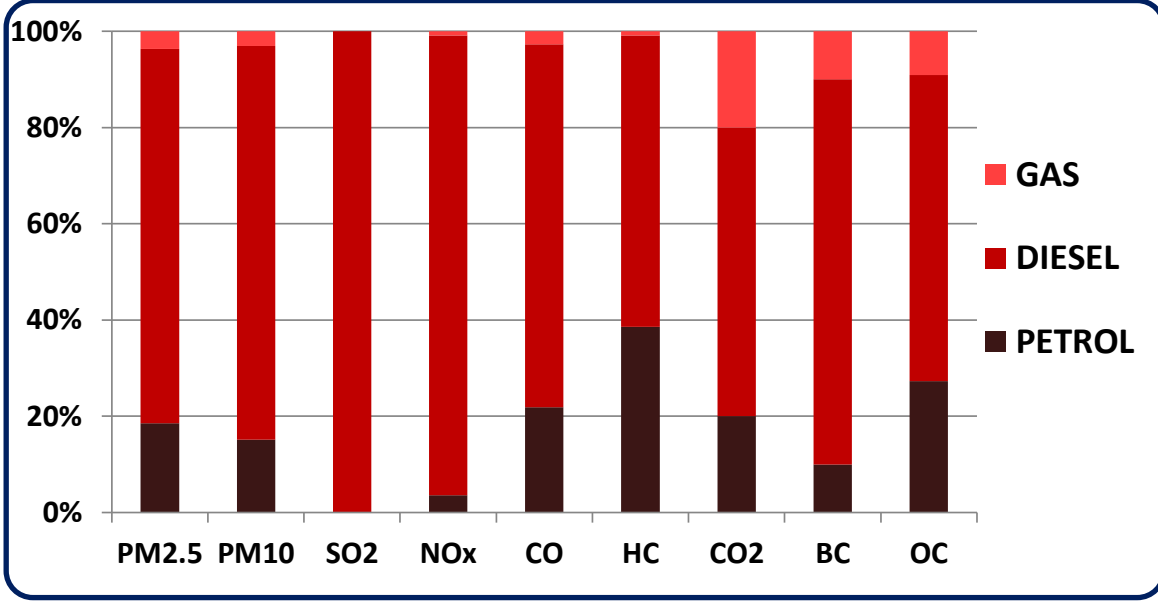
2010

STATE: MIZORAM

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	30	40	60	30	100	20	250	tons
PM10	30	40	80	40	130	30	320	tons
SO2	10	10	10	10	20	10	40	tons
NOx	40	60	390	500	2,270	90	3,330	tons
CO	400	410	1,160	200	1,170	320	3,650	tons
VOC	440	130	110	70	380	30	1,130	tons
CO2	0.1	0.1	0.1	0.1	0.2	0.1	0.4	mill tons
BC	10	10	30	10	40	10	80	tons
OC	20	20	20	10	30	10	90	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	50	210	10	-	250
PM10 (tons)	50	270	10	-	320
SO2 (tons)	-	40	-	-	40
NOx (tons)	120	3,190	30	-	3,330
CO (tons)	800	2,760	100	-	3,650
VOC (tons)	440	690	10	-	1,130
CO2 (mil tons)	0.1	0.3	0.1	-	0.4
BC (tons)	10	80	10	-	80
OC (tons)	30	70	10	-	90

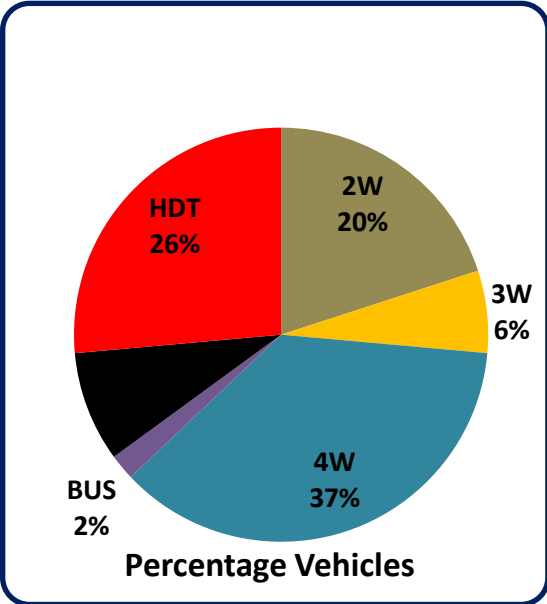
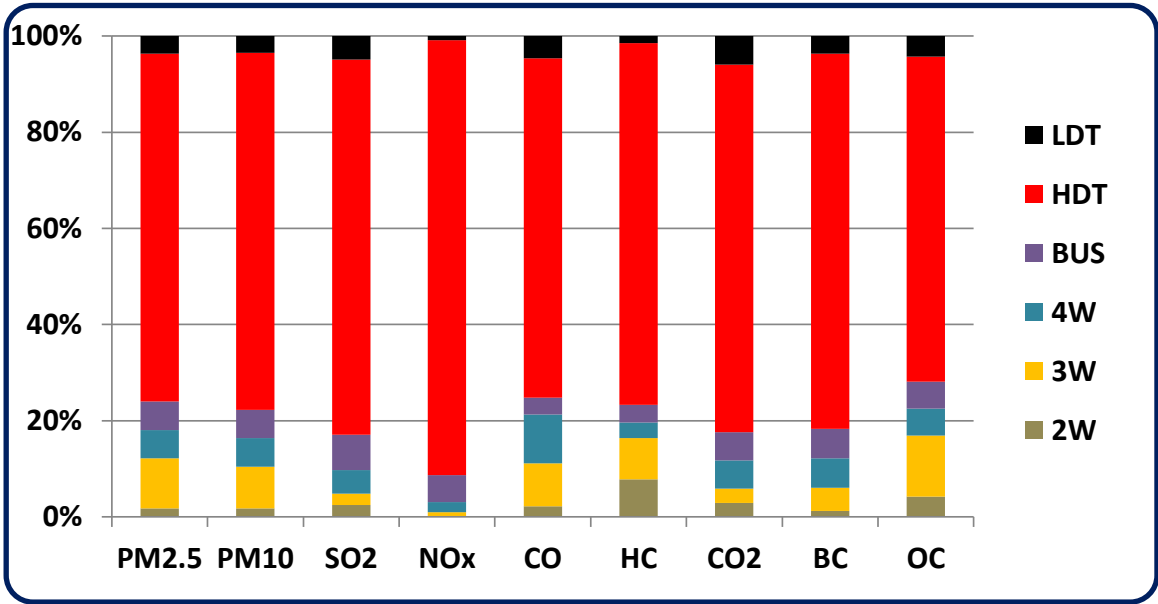


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

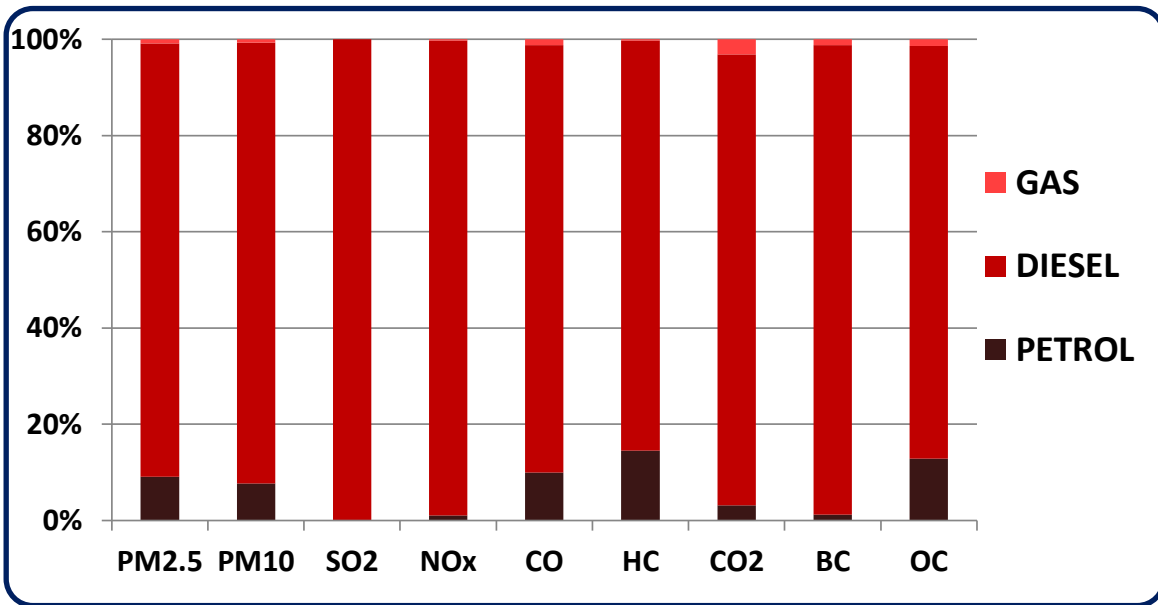
2010

STATE: NAGALAND

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	40	230	130	130	1,600	80	2,190	tons
PM10	50	250	170	170	2,130	100	2,850	tons
SO2	10	10	20	30	320	20	380	tons
NOx	70	360	950	2,530	40,790	380	45,060	tons
CO	640	2,560	2,930	1,030	20,320	1,340	28,800	tons
VOC	700	760	290	330	6,700	130	8,880	tons
CO2	0.1	0.1	0.2	0.2	2.6	0.2	3.2	mill tons
BC	10	40	50	50	640	30	800	tons
OC	30	90	40	40	480	30	690	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	200	1,980	20	-	2,190
PM10 (tons)	220	2,620	20	-	2,850
SO2 (tons)	-	380	-	-	380
NOx (tons)	460	44,510	100	-	45,060
CO (tons)	2,860	25,590	360	-	28,800
VOC (tons)	1,290	7,580	20	-	8,880
CO2 (mil tons)	0.1	3.0	0.1	-	3.2
BC (tons)	10	790	10	-	800
OC (tons)	90	600	10	-	690

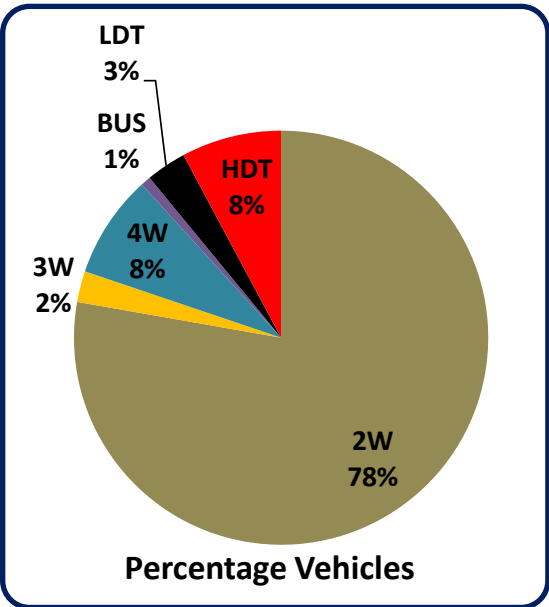
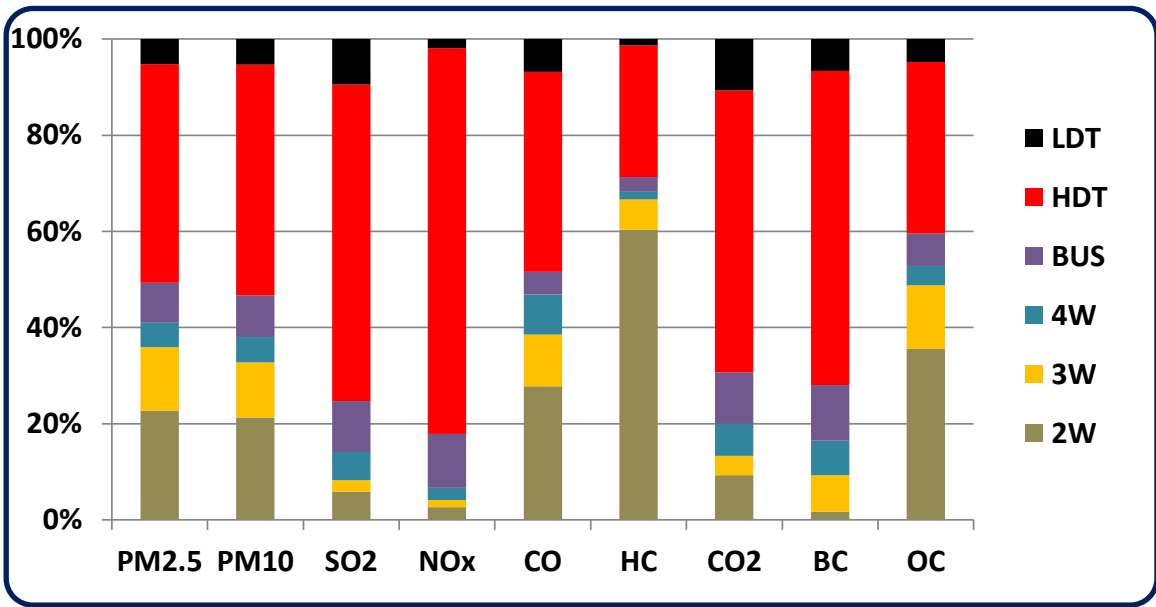


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

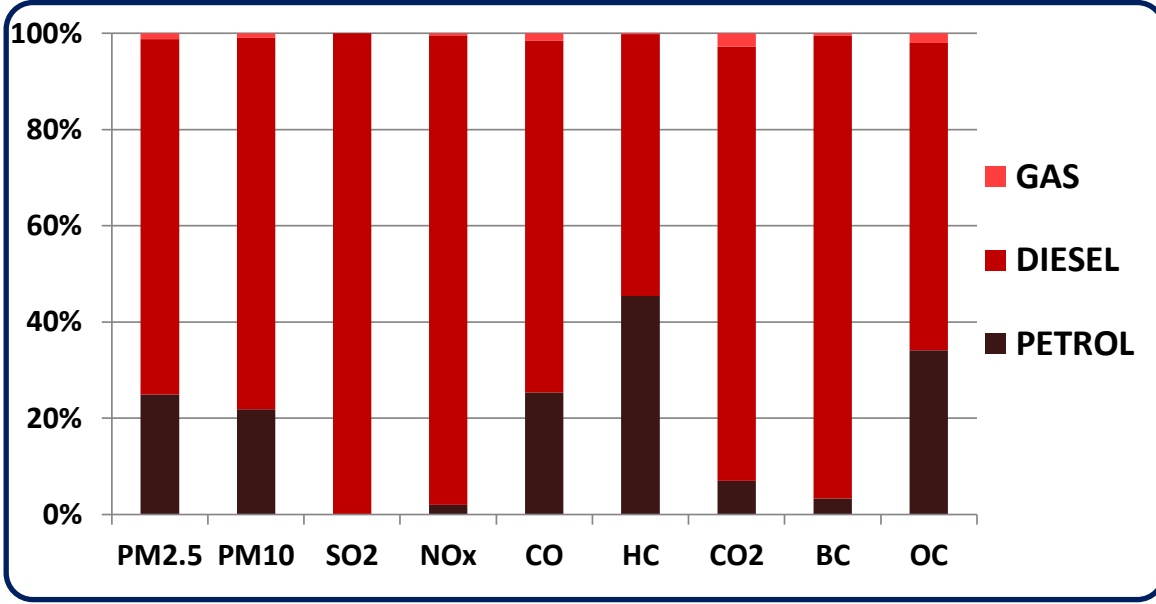
2010

STATE: ORISSA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,480	860	330	540	2,960	340	6,480	tons
PM10	1,750	950	430	710	3,950	440	8,210	tons
SO2	50	20	50	90	560	80	830	tons
NOx	2,530	1,340	2,410	10,610	75,730	1,750	94,340	tons
CO	25,120	9,690	7,560	4,290	37,580	6,110	90,340	tons
VOC	27,370	2,860	720	1,370	12,440	590	45,330	tons
CO2	0.7	0.3	0.5	0.8	4.4	0.8	7.2	mill tons
BC	30	140	130	210	1,190	120	1,810	tons
OC	890	330	100	170	890	120	2,470	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	1,620	4,790	80	-	6,480
PM10 (tons)	1,800	6,340	80	-	8,210
SO2 (tons)	-	830	-	-	830
NOx (tons)	1,920	92,000	430	-	94,340
CO (tons)	22,950	65,960	1,440	-	90,340
VOC (tons)	20,600	24,650	90	-	45,330
CO2 (mil tons)	0.5	6.5	0.2	-	7.2
BC (tons)	60	1,750	10	-	1,810
OC (tons)	850	1,590	50	-	2,470

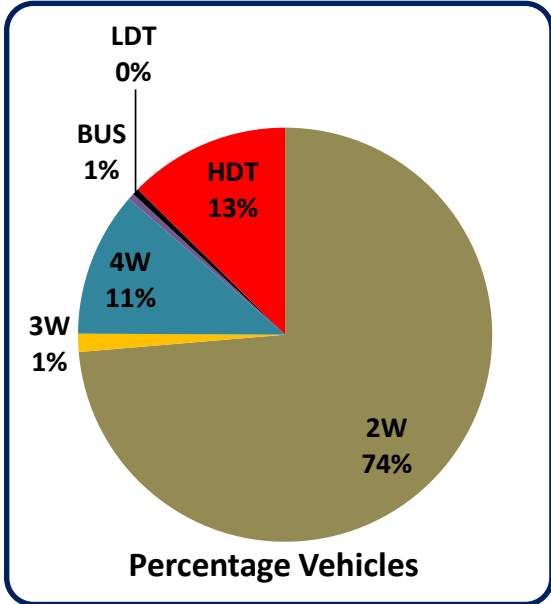
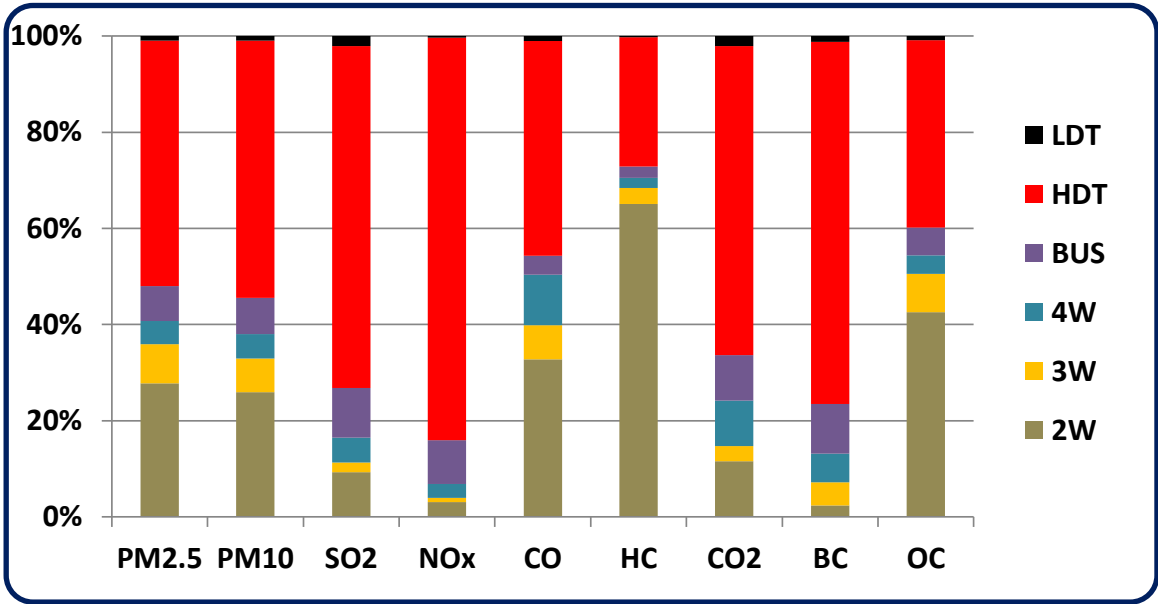


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

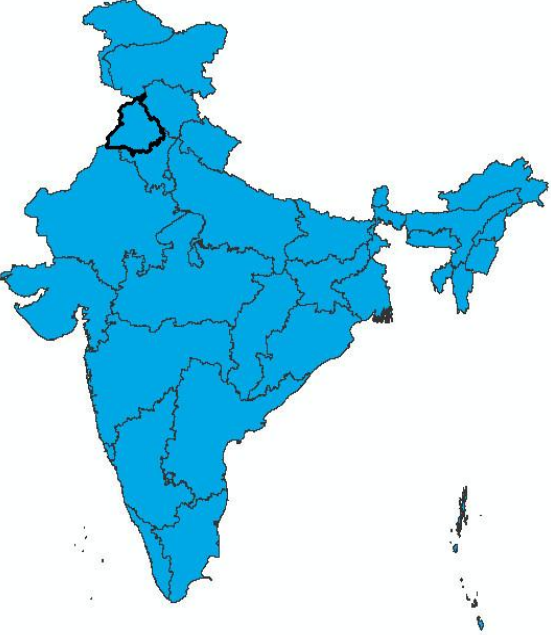
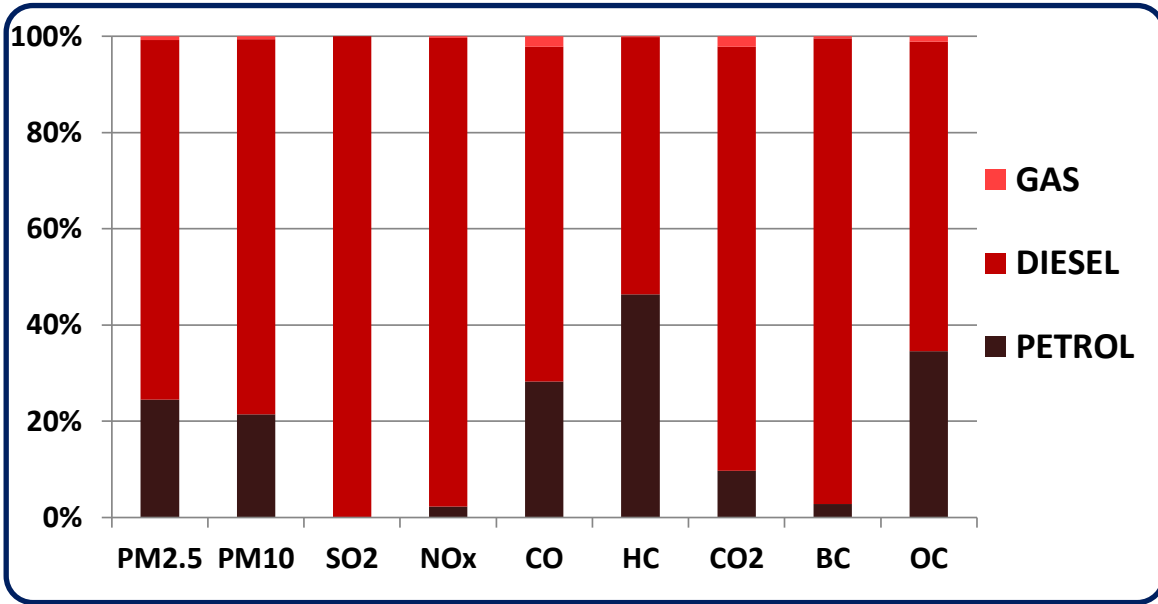
2010

STATE: PUNJAB

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	2,570	750	450	670	4,720	90	9,220	tons
PM10	3,050	820	600	880	6,290	110	11,730	tons
SO2	90	20	50	100	690	20	940	tons
NOx	4,420	1,270	4,160	13,150	120,400	420	143,800	tons
CO	43,830	9,440	14,110	5,270	59,660	1,360	133,650	tons
VOC	47,750	2,480	1,540	1,700	19,790	140	73,380	tons
CO2	1.1	0.3	0.9	0.9	6.1	0.2	9.3	mill tons
BC	60	120	150	260	1,890	30	2,490	tons
OC	1,550	290	140	210	1,420	30	3,610	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	2,260	6,900	70	-	9,220
PM10 (tons)	2,510	9,150	70	-	11,730
SO2 (tons)	-	940	-	-	940
NOx (tons)	3,260	140,060	480	-	143,800
CO (tons)	37,720	93,090	2,860	-	133,650
VOC (tons)	34,030	39,230	130	-	73,380
CO2 (mil tons)	0.9	8.2	0.2	-	9.3
BC (tons)	70	2,420	10	-	2,490
OC (tons)	1,250	2,330	40	-	3,610

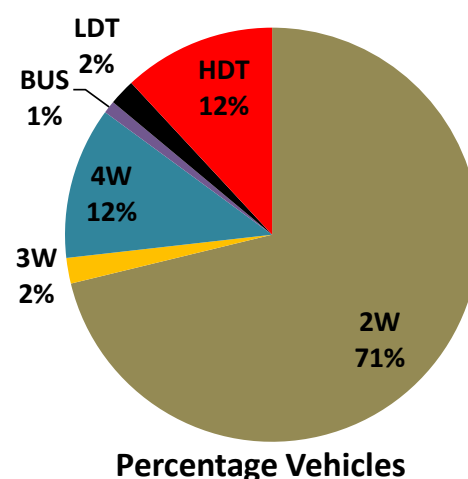
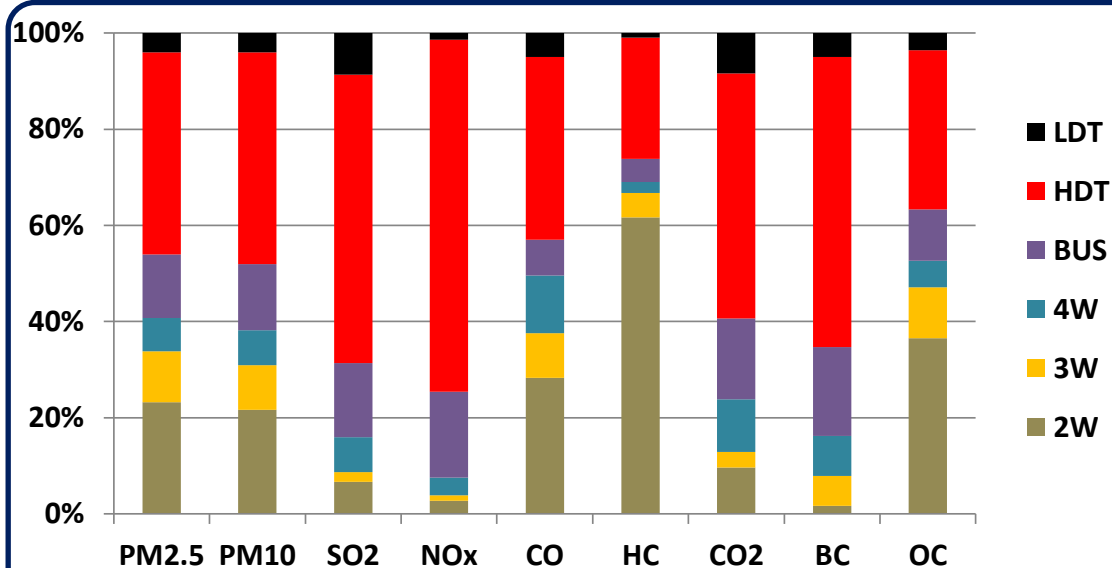


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

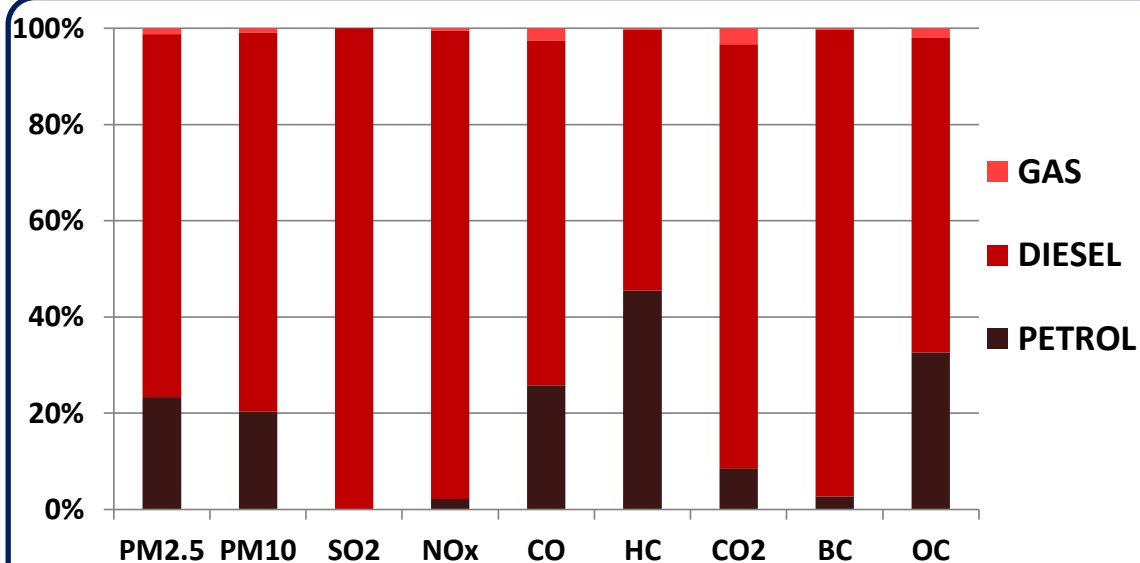
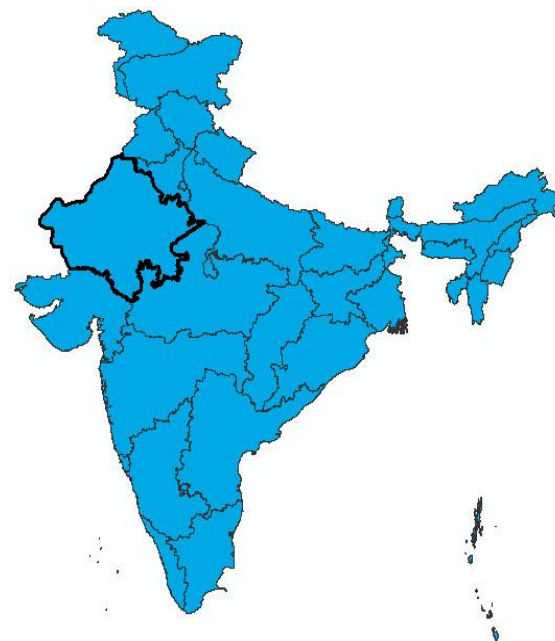
2010

STATE: RAJASTHAN

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	3,380	1,540	1,010	1,920	6,120	580	14,530	tons
PM10	4,010	1,710	1,350	2,540	8,160	740	18,480	tons
SO2	100	30	110	230	900	130	1,470	tons
NOx	5,820	2,540	7,700	38,210	156,360	2,940	213,540	tons
CO	57,700	18,800	24,510	15,060	77,370	10,100	203,520	tons
VOC	62,870	5,170	2,290	4,930	25,690	990	101,920	tons
CO2	1.5	0.5	1.7	2.6	7.9	1.3	15.1	mill tons
BC	70	250	340	750	2,450	200	4,050	tons
OC	2,030	590	310	590	1,840	200	5,540	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	3,390	10,970	180	-	14,530
PM10 (tons)	3,770	14,540	180	-	18,480
SO2 (tons)	-	1,470	-	-	1,470
NOx (tons)	4,620	207,760	1,170	-	213,540
CO (tons)	52,530	145,660	5,350	-	203,520
VOC (tons)	46,380	55,280	260	-	101,920
CO2 (mil tons)	1.3	13.4	0.5	-	15.1
BC (tons)	110	3,940	10	-	4,050
OC (tons)	1,810	3,630	110	-	5,540

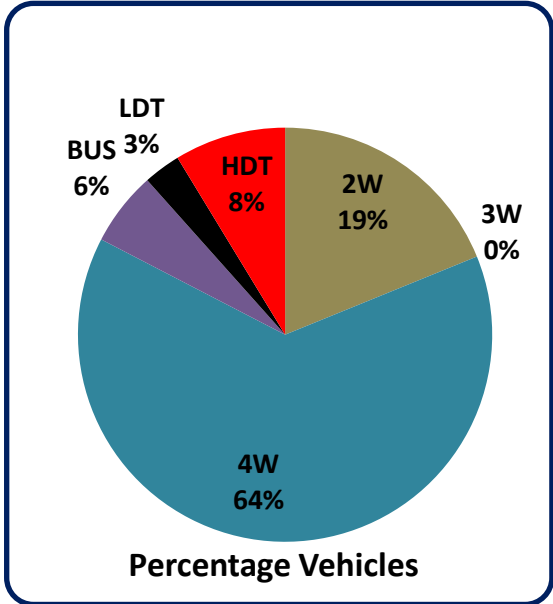
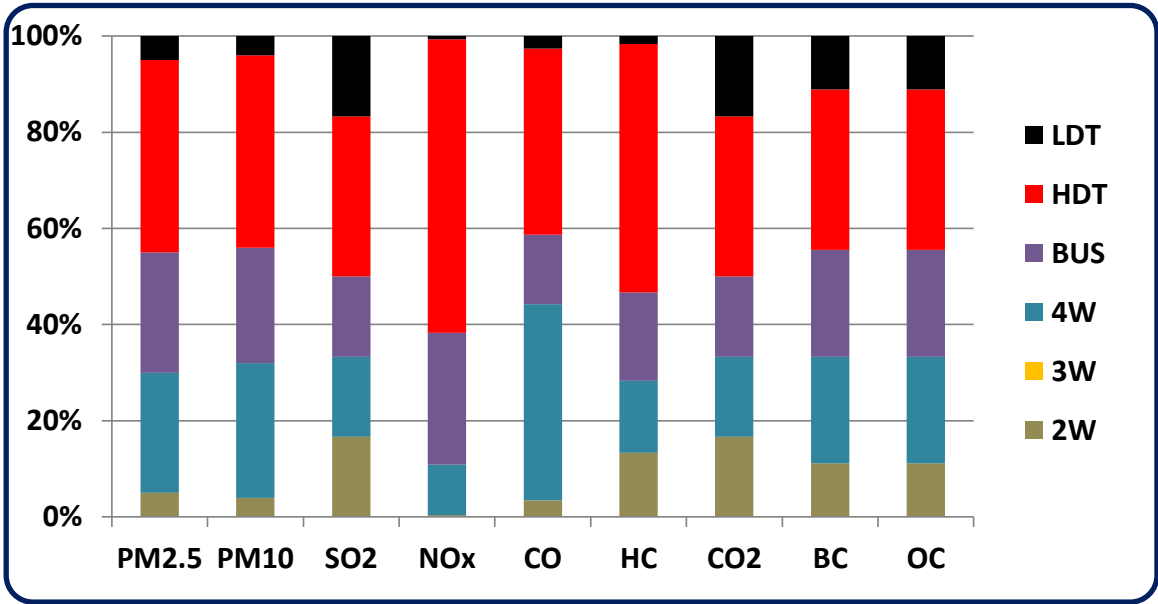


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

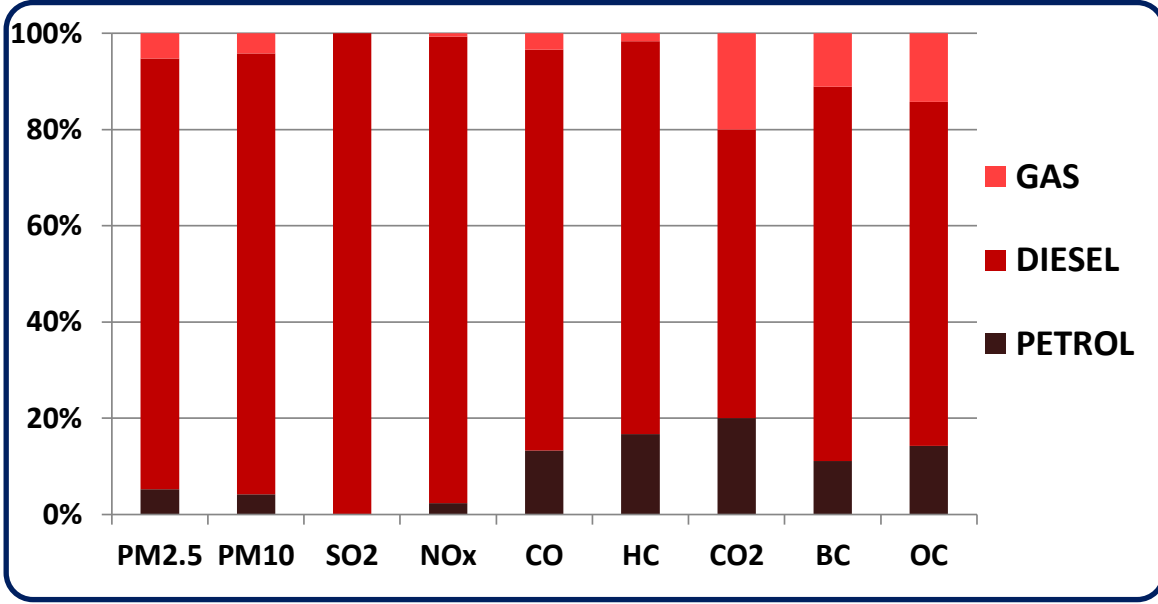
2010

STATE: SIKKIM

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	10	-	50	50	80	10	170	tons
PM10	10	-	70	60	100	10	230	tons
SO2	10	-	10	10	20	10	30	tons
NOx	10	-	320	830	1,850	20	3,010	tons
CO	80	-	960	340	910	60	2,330	tons
VOC	80	-	90	110	310	10	580	tons
CO2	0.1	-	0.1	0.1	0.2	0.1	0.3	mill tons
BC	10	-	20	20	30	10	70	tons
OC	10	-	20	20	30	10	60	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	10	170	10	-	170
PM10 (tons)	10	220	10	-	230
SO2 (tons)	-	30	-	-	30
NOx (tons)	70	2,930	20	-	3,010
CO (tons)	310	1,950	80	-	2,330
VOC (tons)	100	490	10	-	580
CO2 (mil tons)	0.1	0.3	0.1	-	0.3
BC (tons)	10	70	10	-	70
OC (tons)	10	50	10	-	60

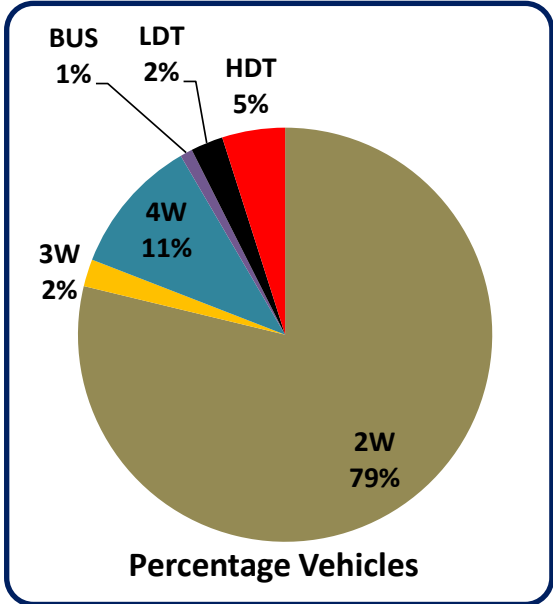
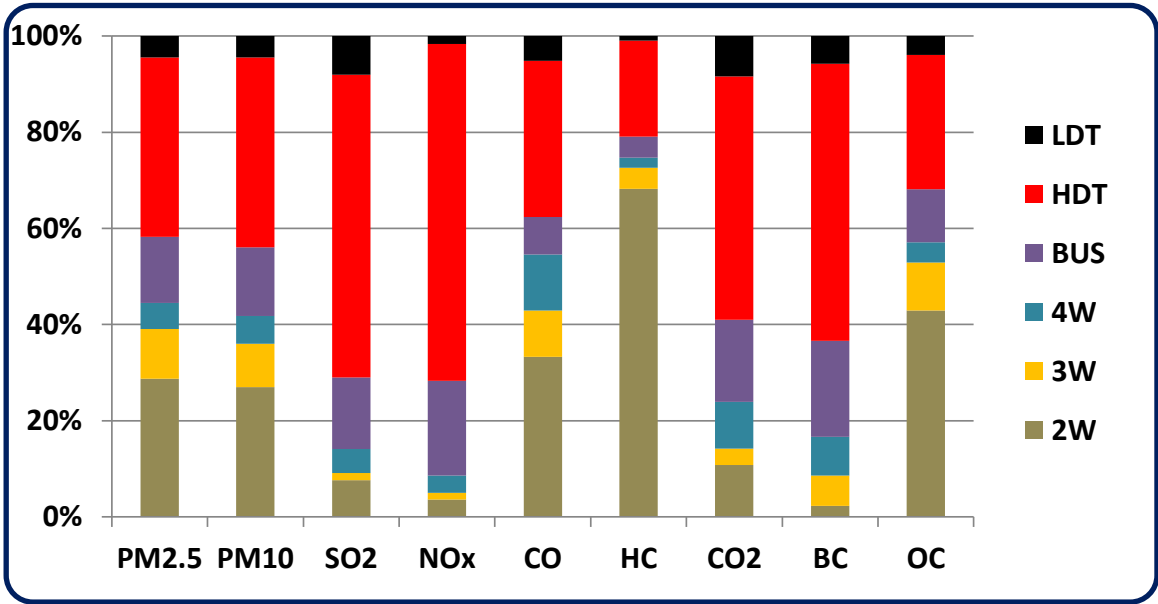


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

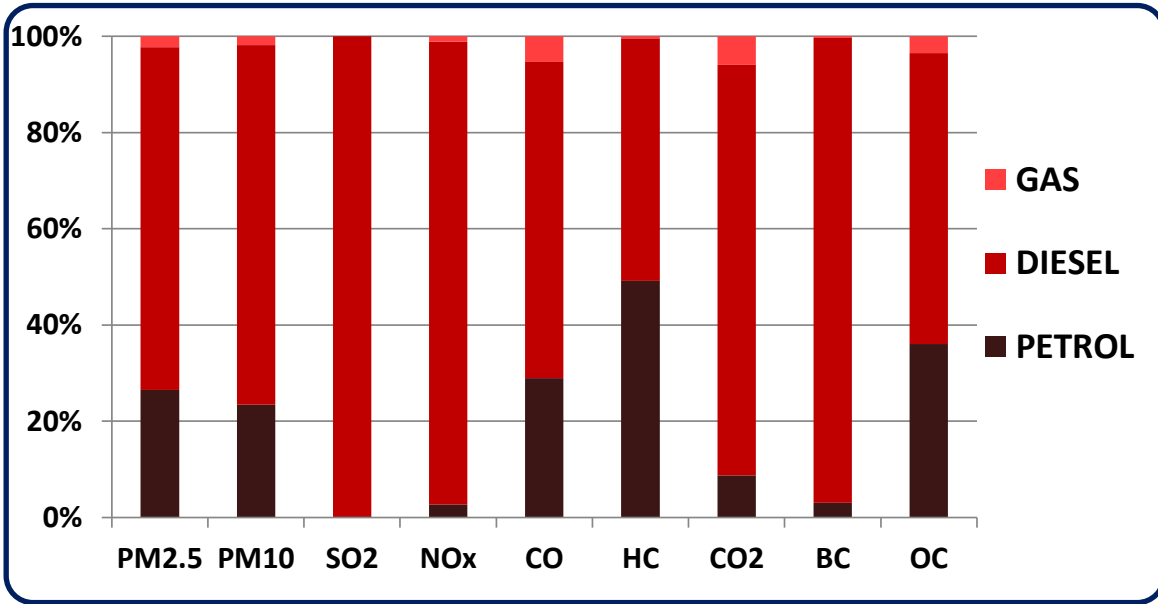
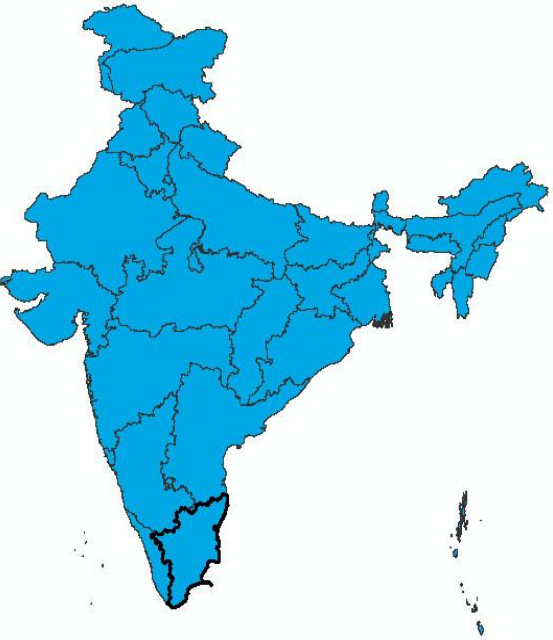
2010

STATE: TAMIL NADU

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	7,330	2,640	1,390	3,520	9,520	1,130	25,500	tons
PM10	8,690	2,910	1,840	4,610	12,700	1,430	32,160	tons
SO2	200	40	130	390	1,650	210	2,600	tons
NOx	12,600	4,740	12,500	68,070	242,530	5,760	346,180	tons
CO	125,080	35,970	43,740	29,340	121,690	19,330	375,120	tons
VOC	136,280	8,800	4,180	8,760	39,880	1,910	199,790	tons
CO2	3.1	1.0	2.8	4.9	14.6	2.4	28.5	mill tons
BC	150	420	530	1,320	3,810	380	6,590	tons
OC	4,400	1,020	430	1,130	2,860	400	10,210	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	6,770	18,150	590	-	25,500
PM10 (tons)	7,530	24,060	590	-	32,160
SO2 (tons)	-	2,600	-	-	2,600
NOx (tons)	9,240	332,920	4,020	-	346,180
CO (tons)	108,470	246,630	20,020	-	375,120
VOC (tons)	98,150	100,800	840	-	199,790
CO2 (mil tons)	2.5	24.3	1.7	-	28.5
BC (tons)	200	6,390	20	-	6,590
OC (tons)	3,690	6,180	360	-	10,210

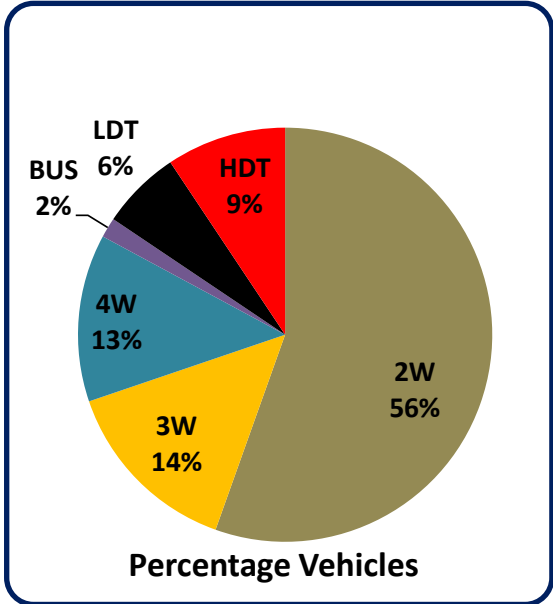
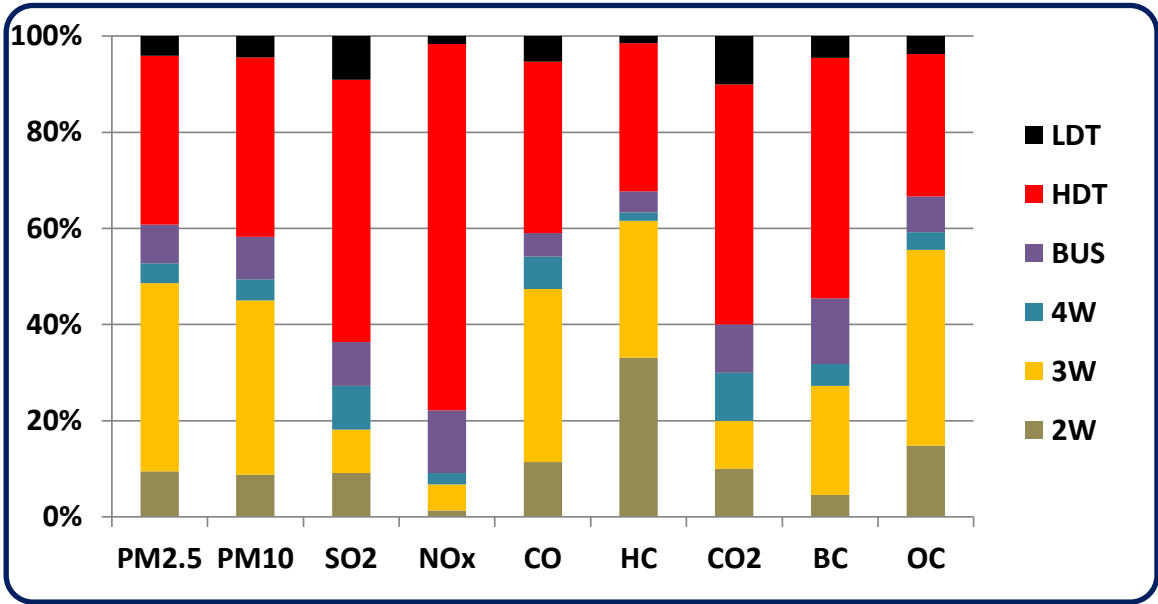


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

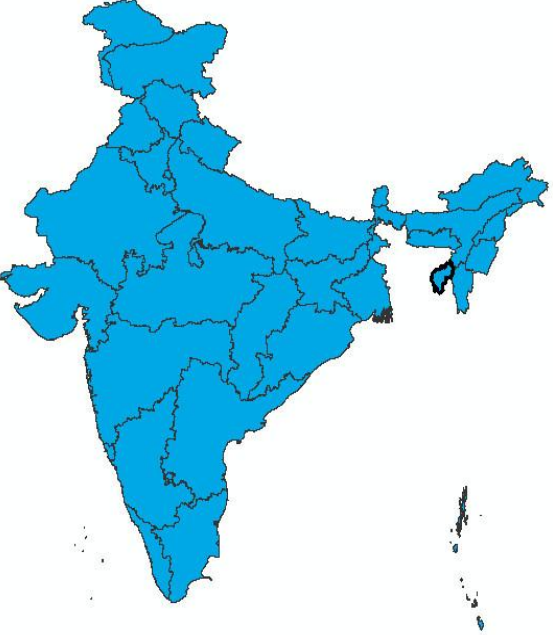
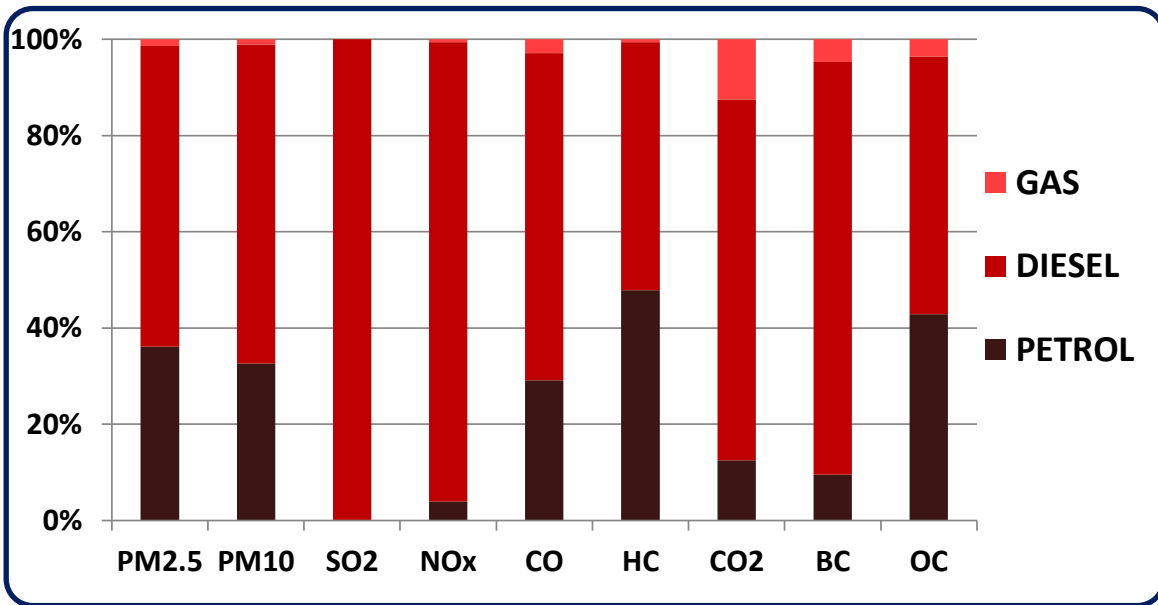
2010

STATE: TRIPURA

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	70	290	30	60	260	30	720	tons
PM10	80	330	40	80	340	40	880	tons
SO2	10	10	10	10	60	10	80	tons
NOx	110	460	200	1,100	6,410	140	8,400	tons
CO	1,050	3,300	620	450	3,270	490	9,150	tons
VOC	1,140	980	60	150	1,060	50	3,420	tons
CO2	0.1	0.1	0.1	0.1	0.5	0.1	0.7	mill tons
BC	10	50	10	30	110	10	190	tons
OC	40	110	10	20	80	10	260	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	260	450	10	-	720
PM10 (tons)	290	590	10	-	880
SO2 (tons)	-	80	-	-	80
NOx (tons)	330	8,030	50	-	8,400
CO (tons)	2,670	6,230	260	-	9,150
VOC (tons)	1,640	1,770	20	-	3,420
CO2 (mil tons)	0.1	0.6	0.1	-	0.7
BC (tons)	20	180	10	-	190
OC (tons)	120	150	10	-	260

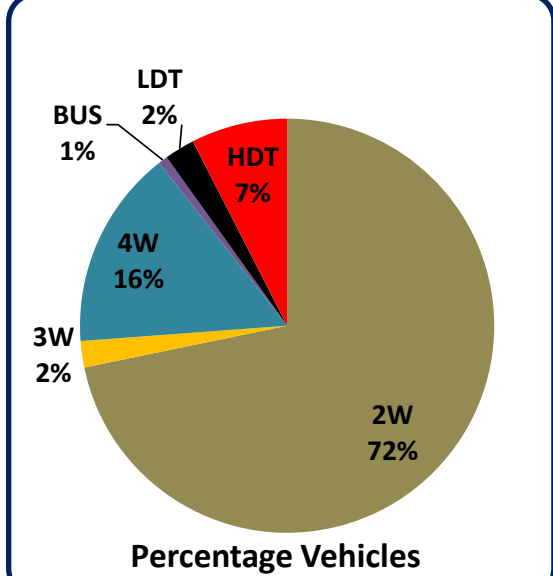
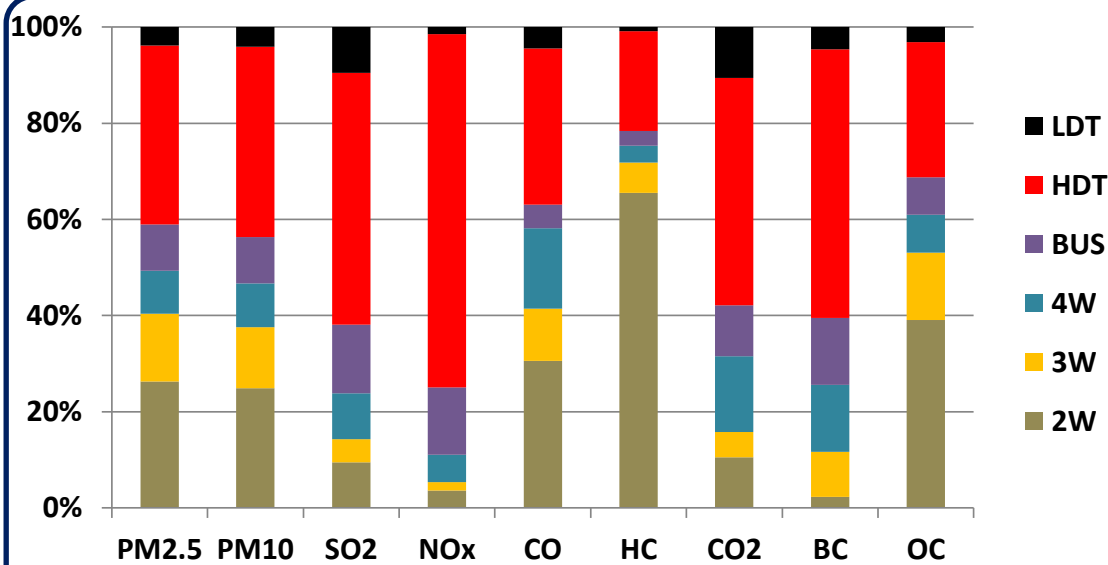


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

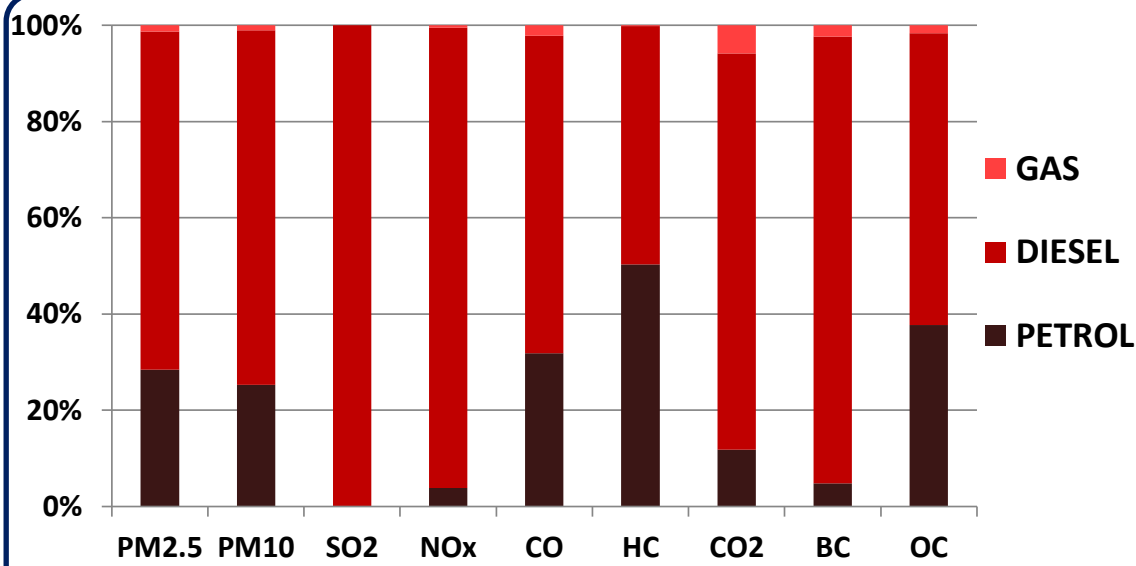
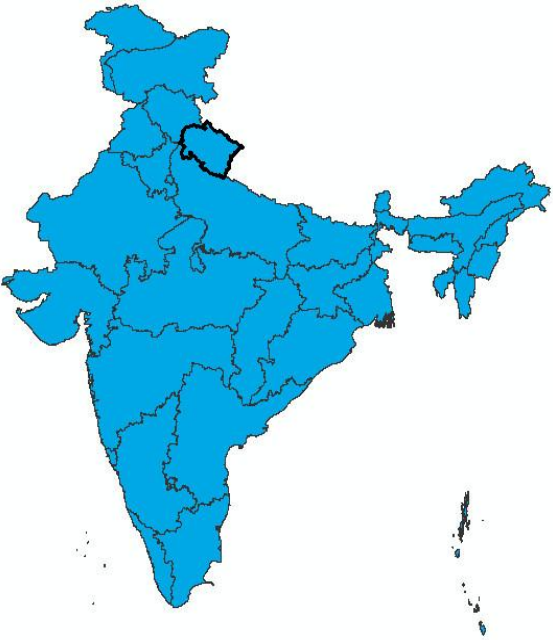
2010

STATE: UTTARAKHAND

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	410	220	140	150	580	60	1,540	tons
PM10	490	250	180	190	780	80	1,930	tons
SO2	20	10	20	30	110	20	180	tons
NOx	710	350	1,140	2,780	14,600	290	19,850	tons
CO	6,980	2,480	3,820	1,130	7,410	1,010	22,810	tons
VOC	7,610	740	400	360	2,410	100	11,590	tons
CO2	0.2	0.1	0.3	0.2	0.9	0.2	1.6	mill tons
BC	10	40	60	60	240	20	410	tons
OC	250	90	50	50	180	20	610	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	440	1,090	20	-	1,540
PM10 (tons)	490	1,430	20	-	1,930
SO2 (tons)	-	180	-	-	180
NOx (tons)	760	18,990	110	-	19,850
CO (tons)	7,260	15,050	500	-	22,810
VOC (tons)	5,830	5,750	20	-	11,590
CO2 (mil tons)	0.2	1.4	0.1	-	1.6
BC (tons)	20	390	10	-	410
OC (tons)	230	370	10	-	610

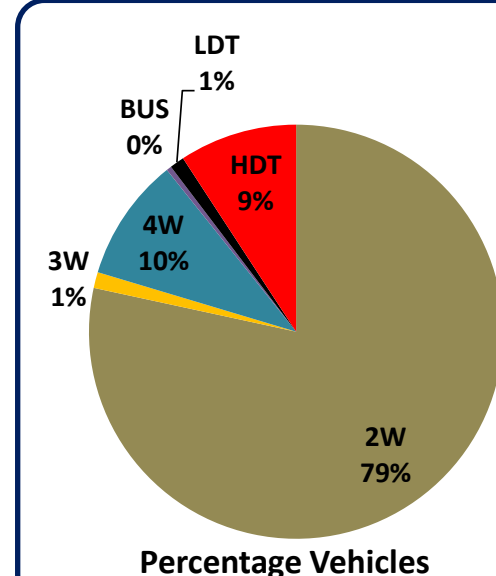
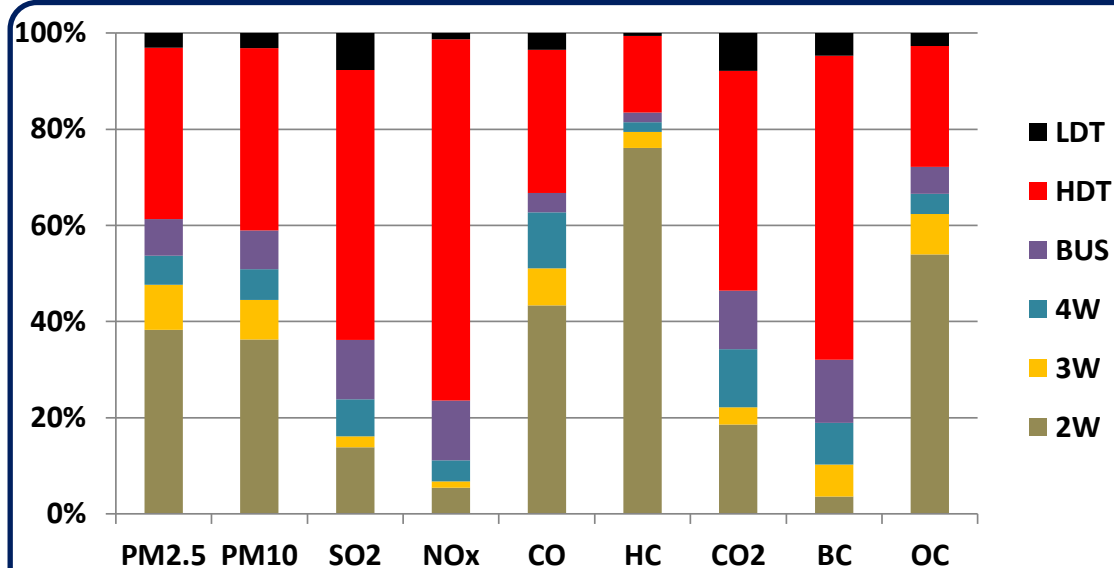


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

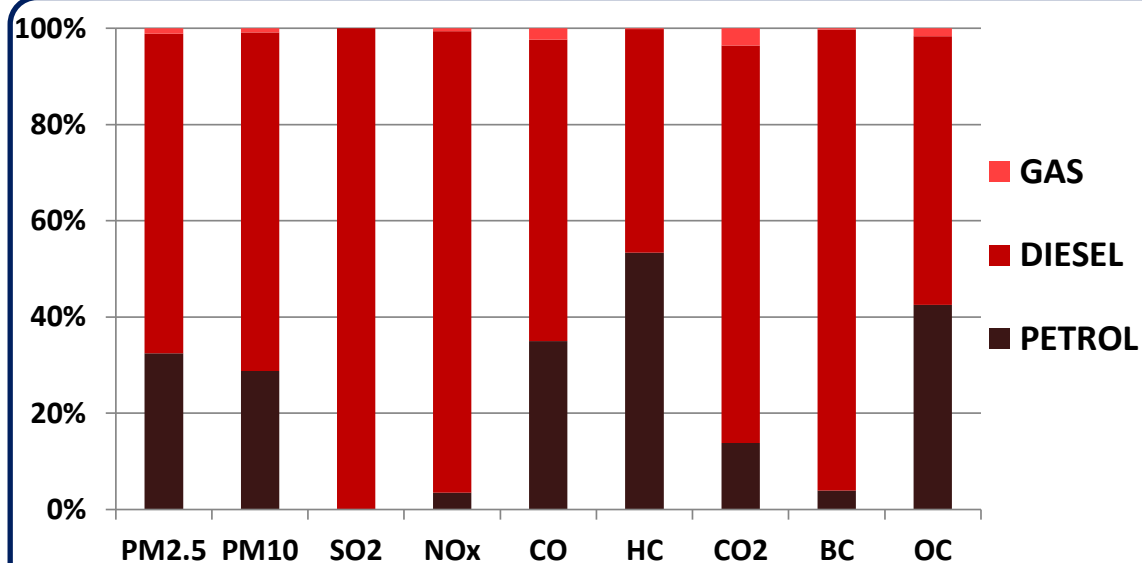
2010

STATE: UTTAR PRADESH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	6,110	1,490	960	1,210	5,680	490	15,910	tons
PM10	7,240	1,640	1,280	1,600	7,570	620	19,930	tons
SO2	180	30	100	160	730	100	1,280	tons
NOx	10,510	2,500	8,370	23,920	144,280	2,480	192,030	tons
CO	104,250	18,650	27,890	9,650	71,670	8,330	240,420	tons
VOC	113,590	4,960	2,930	3,090	23,750	830	149,120	tons
CO2	2.6	0.5	1.7	1.7	6.4	1.1	13.7	mill tons
BC	130	240	310	470	2,270	170	3,570	tons
OC	3,670	570	290	380	1,710	180	6,770	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	5,160	10,570	180	-	15,910
PM10 (tons)	5,740	14,010	180	-	19,930
SO2 (tons)	-	1,280	-	-	1,280
NOx (tons)	6,610	184,250	1,180	-	192,030
CO (tons)	84,120	150,630	5,680	-	240,420
VOC (tons)	79,530	69,310	290	-	149,120
CO2 (mil tons)	1.9	11.4	0.5	-	13.7
BC (tons)	140	3,430	10	-	3,570
OC (tons)	2,880	3,790	110	-	6,770

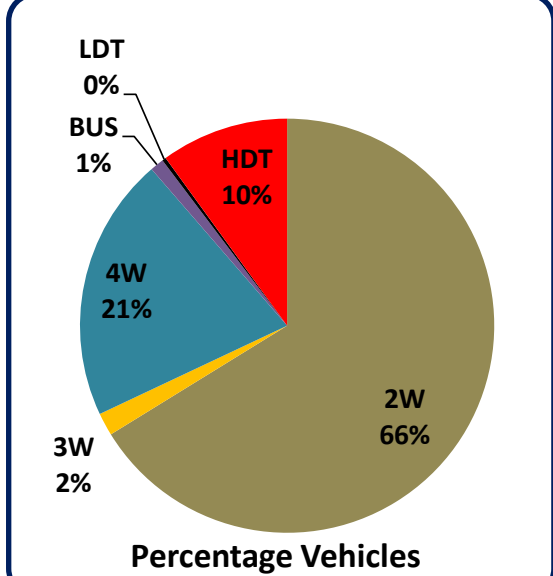
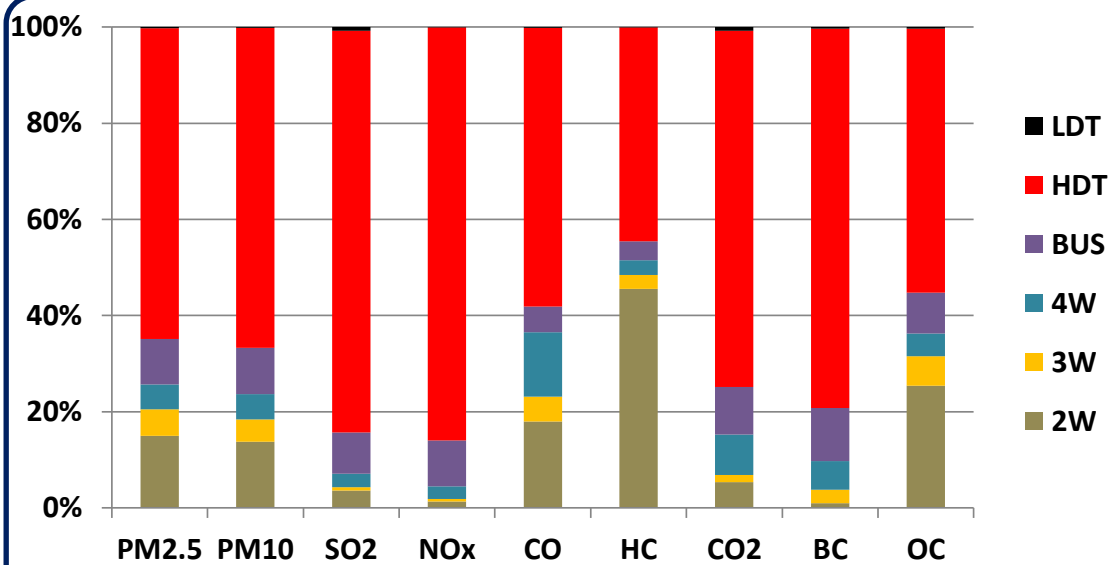


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

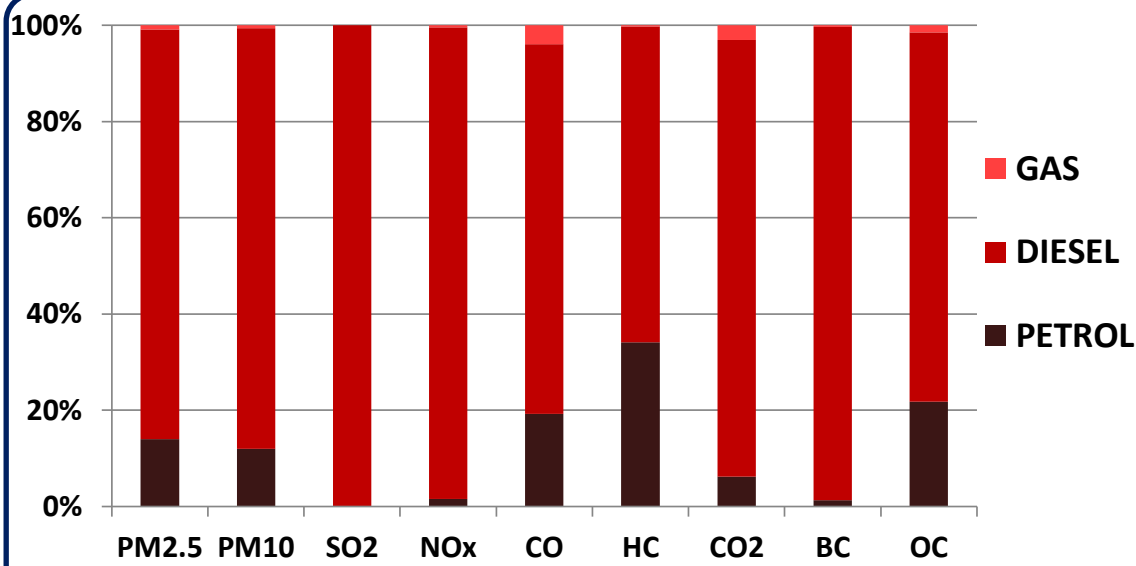
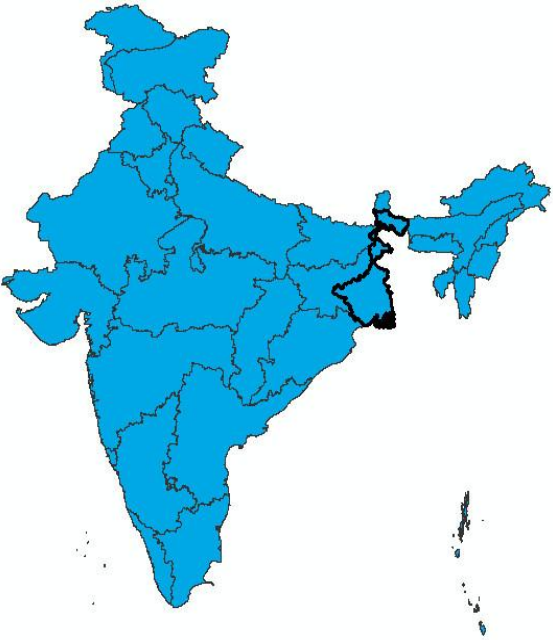
2010

STATE: WEST BENGAL

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	1,450	530	500	910	6,240	20	9,620	tons
PM10	1,720	580	660	1,200	8,320	20	12,480	tons
SO2	50	10	40	120	1,170	10	1,380	tons
NOx	2,490	940	5,010	17,800	160,270	70	186,560	tons
CO	24,680	7,080	18,260	7,350	79,370	240	136,980	tons
VOC	26,890	1,740	1,800	2,300	26,290	30	59,030	tons
CO2	0.7	0.2	1.1	1.3	9.7	0.1	12.9	mill tons
BC	30	90	190	350	2,500	10	3,150	tons
OC	870	210	160	290	1,880	10	3,380	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	1,350	8,200	80	-	9,620
PM10 (tons)	1,500	10,910	80	-	12,480
SO2 (tons)	-	1,380	-	-	1,380
NOx (tons)	2,970	182,760	840	-	186,560
CO (tons)	26,330	105,230	5,430	-	136,980
VOC (tons)	20,150	38,760	140	-	59,030
CO2 (mil tons)	0.8	11.8	0.4	-	12.9
BC (tons)	40	3,110	10	-	3,150
OC (tons)	740	2,610	50	-	3,380

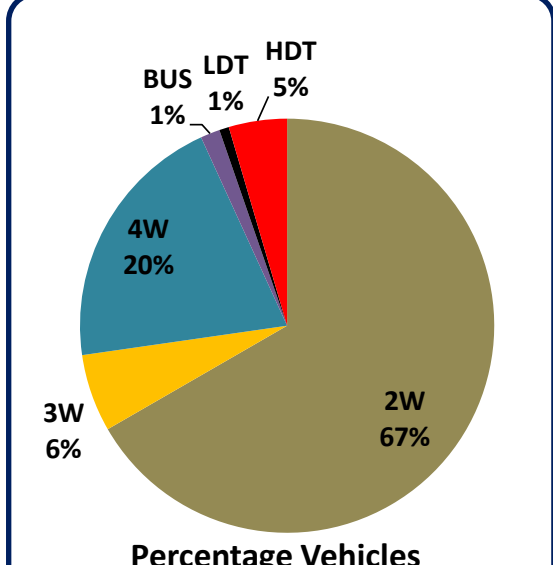
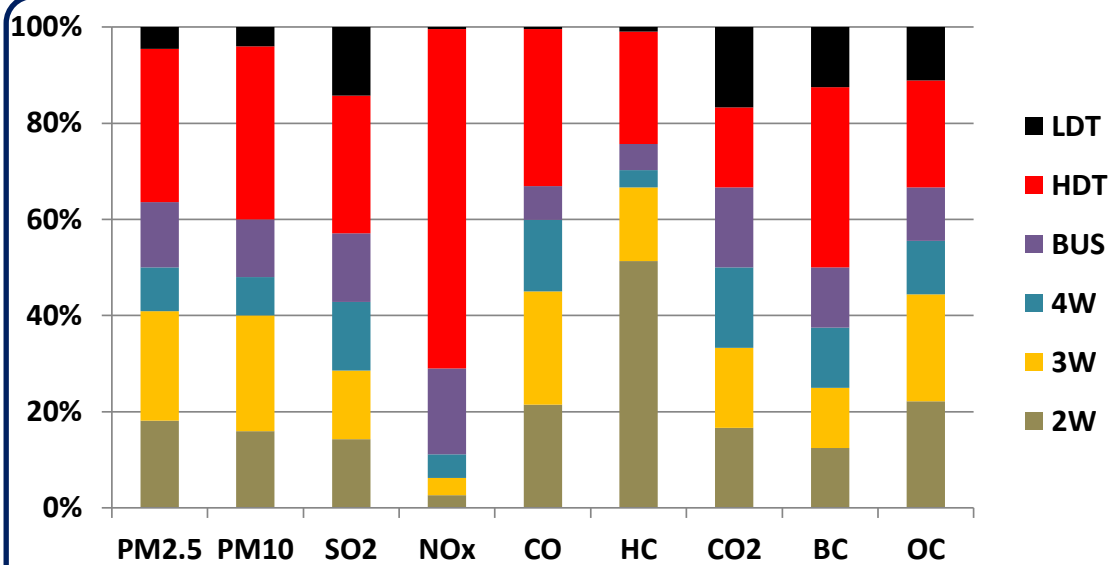


PM = particulate matter; PM2.5 = PM less than 2.5 μ m diameter; PM10 = PM less than 10 μ m; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

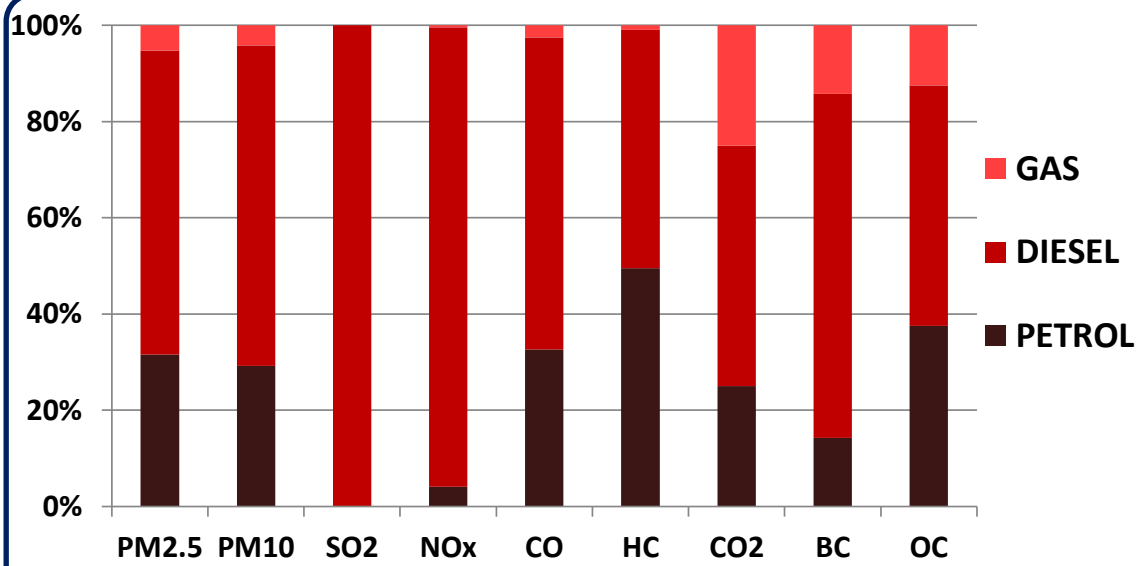
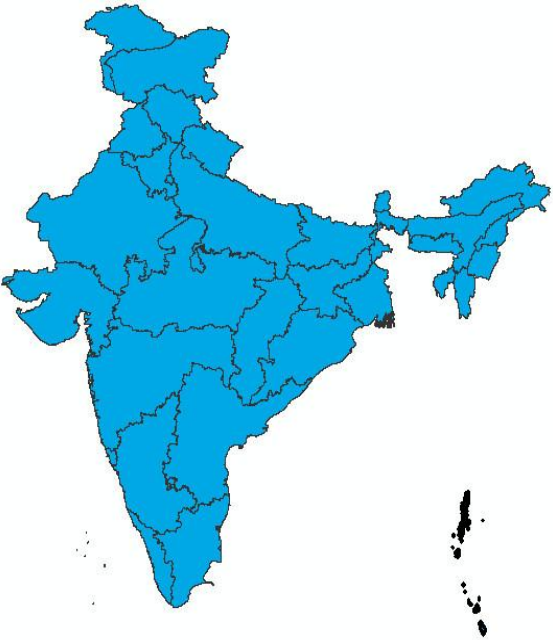
2010

STATE: ANDAMAN AND NICOBAR

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	40	50	20	30	70	10	180	tons
PM10	40	60	20	30	90	10	220	tons
SO2	10	10	10	10	20	10	20	tons
NOx	60	80	110	400	1,580	10	2,210	tons
CO	520	570	360	170	790	10	2,380	tons
VOC	570	170	40	60	260	10	1,080	tons
CO2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	mill tons
BC	10	10	10	10	30	10	50	tons
OC	20	20	10	10	20	10	70	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	60	120	10	-	180
PM10 (tons)	70	160	10	-	220
SO2 (tons)	-	20	-	-	20
NOx (tons)	90	2,110	10	-	2,210
CO (tons)	780	1,550	60	-	2,380
VOC (tons)	540	540	10	-	1,080
CO2 (mil tons)	0.1	0.2	0.1	-	0.2
BC (tons)	10	50	10	-	50
OC (tons)	30	40	10	-	70

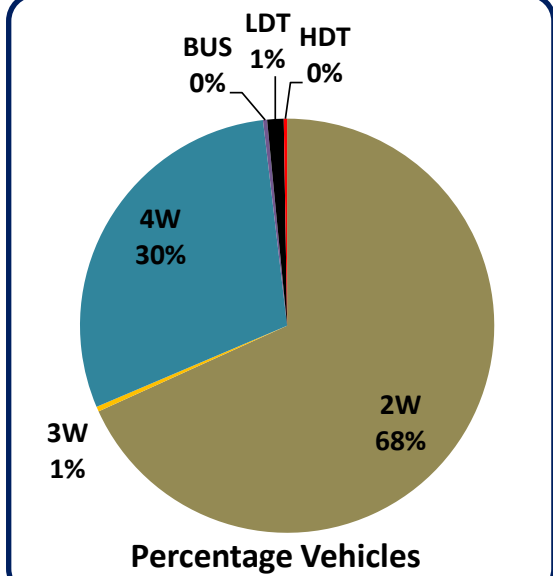
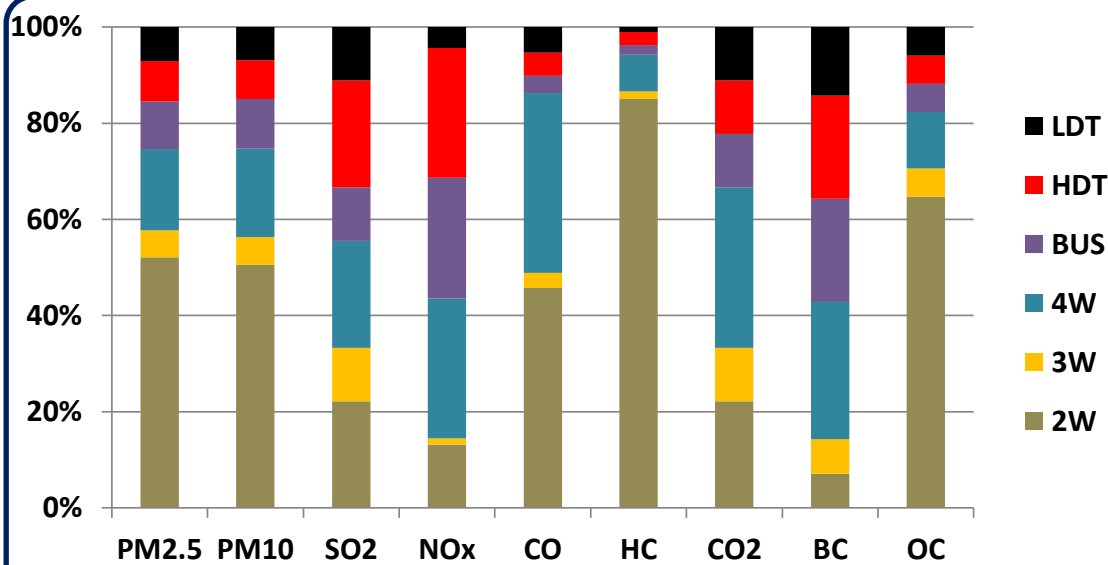


PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

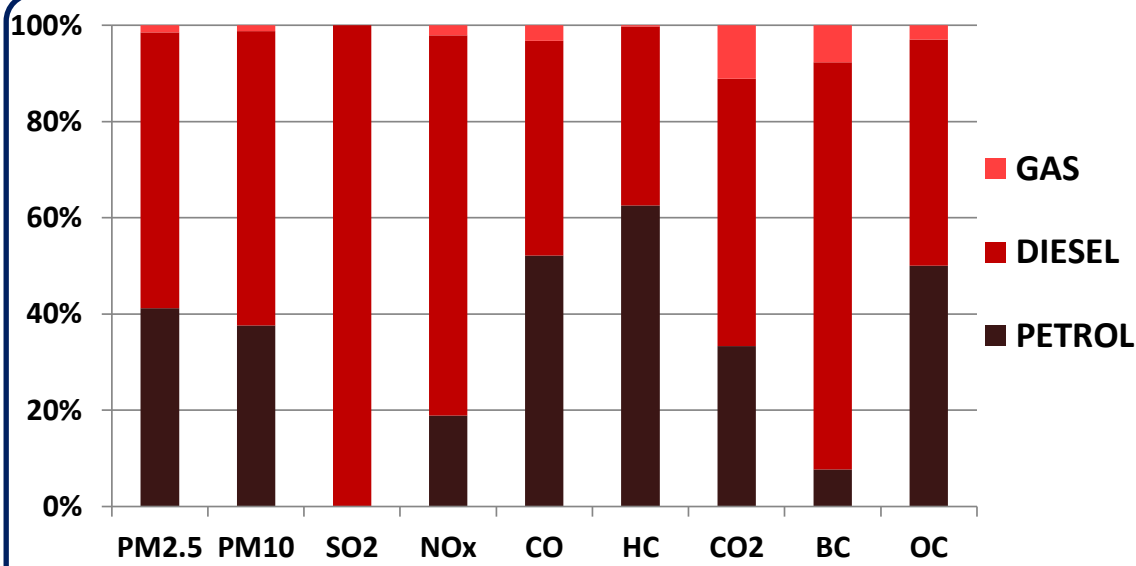
2010

STATE: CHANDIGARH

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	370	40	120	70	60	50	680	tons
PM10	440	50	160	90	70	60	840	tons
SO2	20	10	20	10	20	10	60	tons
NOx	640	60	1,410	1,220	1,310	210	4,820	tons
CO	6,260	430	5,110	500	650	730	13,660	tons
VOC	6,820	130	610	160	220	80	7,990	tons
CO2	0.2	0.1	0.3	0.1	0.1	0.1	0.7	mill tons
BC	10	10	40	30	30	20	110	tons
OC	220	20	40	20	20	20	320	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	280	390	10	-	680
PM10 (tons)	320	520	10	-	840
SO2 (tons)	-	60	-	-	60
NOx (tons)	910	3,820	100	-	4,820
CO (tons)	7,130	6,110	440	-	13,660
VOC (tons)	5,010	2,980	20	-	7,990
CO2 (mil tons)	0.3	0.5	0.1	-	0.7
BC (tons)	10	110	10	-	110
OC (tons)	170	160	10	-	320

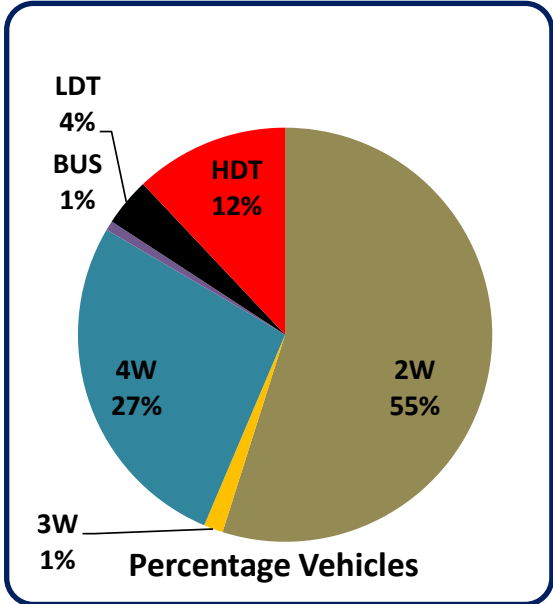
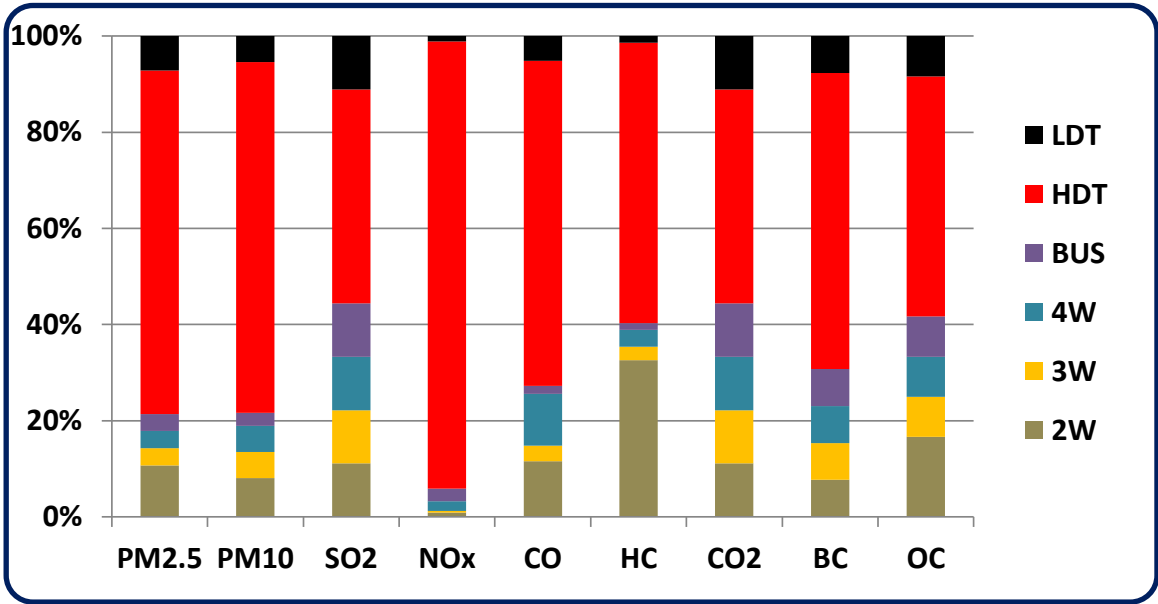


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

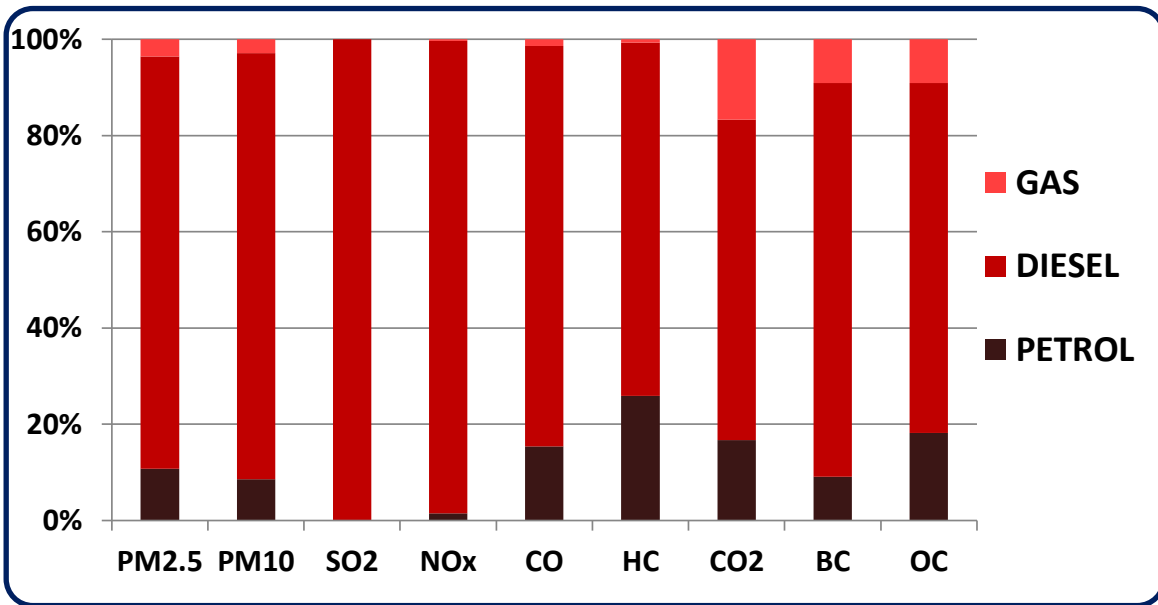
2010

STATE: DADRA AND NAGAR HAVELI

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	30	10	10	10	200	20	260	tons
PM10	30	20	20	10	270	20	340	tons
SO2	10	10	10	10	40	10	50	tons
NOx	50	20	110	140	5,080	60	5,430	tons
CO	430	120	400	60	2,510	190	3,690	tons
VOC	470	40	50	20	840	20	1,420	tons
CO2	0.1	0.1	0.1	0.1	0.4	0.1	0.4	mill tons
BC	10	10	10	10	80	10	90	tons
OC	20	10	10	10	60	10	90	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	30	240	10	-	260
PM10 (tons)	30	310	10	-	340
SO2 (tons)	-	50	-	-	50
NOx (tons)	80	5,350	20	-	5,430
CO (tons)	570	3,080	50	-	3,690
VOC (tons)	370	1,050	10	-	1,420
CO2 (mil tons)	0.1	0.4	0.1	-	0.4
BC (tons)	10	90	10	-	90
OC (tons)	20	80	10	-	90

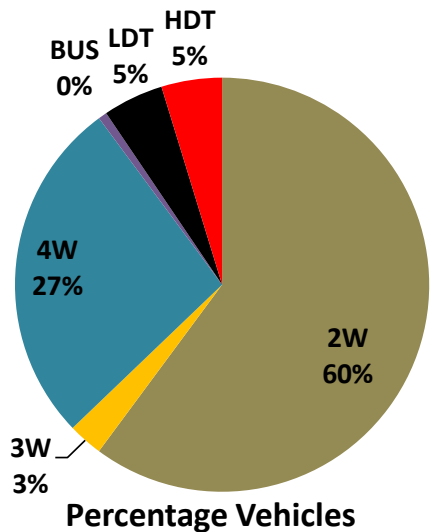
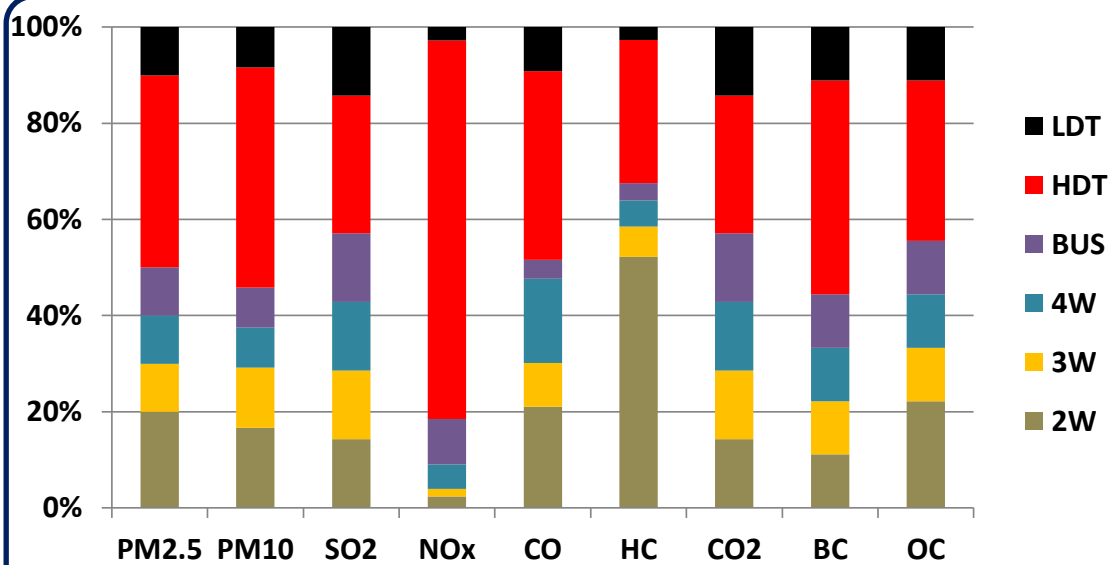


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

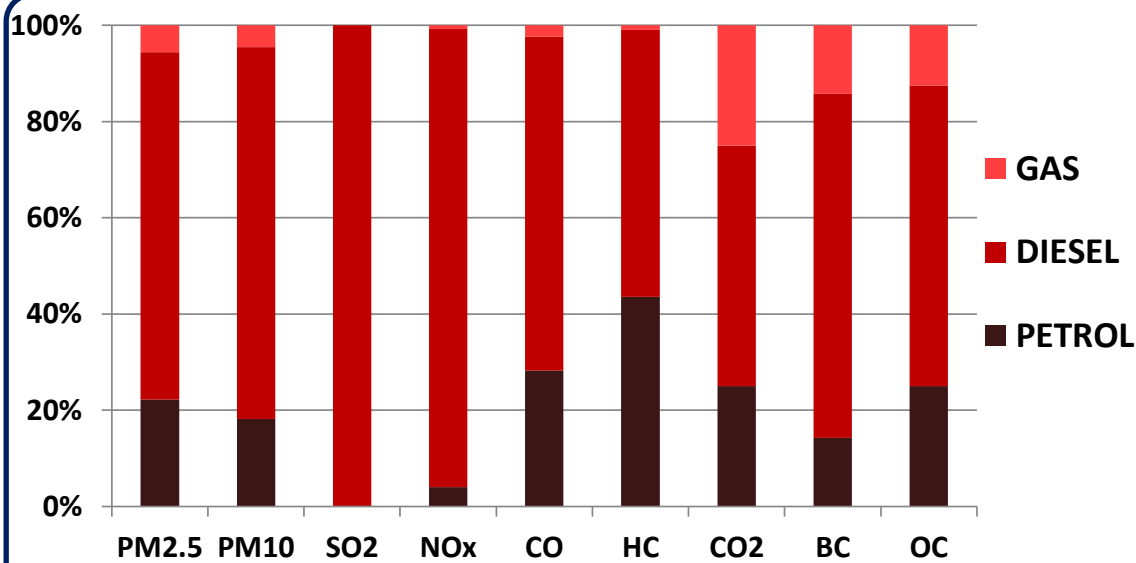
2010

STATE: DAMAN AND DIU

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	40	20	20	20	80	20	170	tons
PM10	40	30	20	20	110	20	210	tons
SO2	10	10	10	10	20	10	30	tons
NOx	60	40	130	240	2,000	70	2,510	tons
CO	530	230	440	100	990	230	2,500	tons
VOC	580	70	60	40	330	30	1,070	tons
CO2	0.1	0.1	0.1	0.1	0.2	0.1	0.3	mill tons
BC	10	10	10	10	40	10	50	tons
OC	20	10	10	10	30	10	70	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	40	130	10	-	170
PM10 (tons)	40	170	10	-	210
SO2 (tons)	-	30	-	-	30
NOx (tons)	100	2,400	20	-	2,510
CO (tons)	710	1,740	60	-	2,500
VOC (tons)	470	600	10	-	1,070
CO2 (mil tons)	0.1	0.2	0.1	-	0.3
BC (tons)	10	50	10	-	50
OC (tons)	20	50	10	-	70

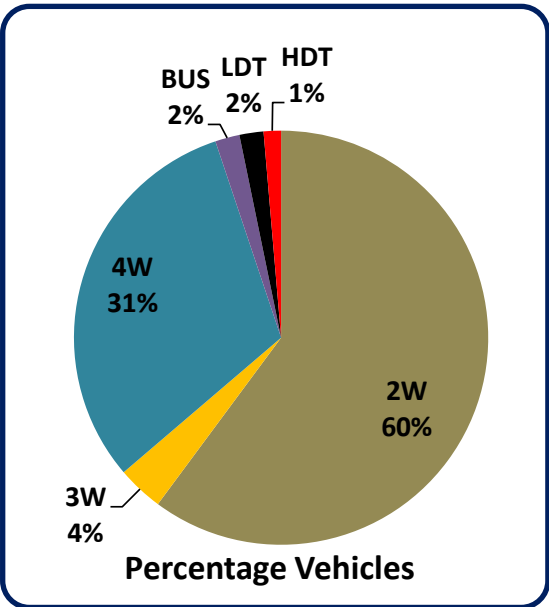
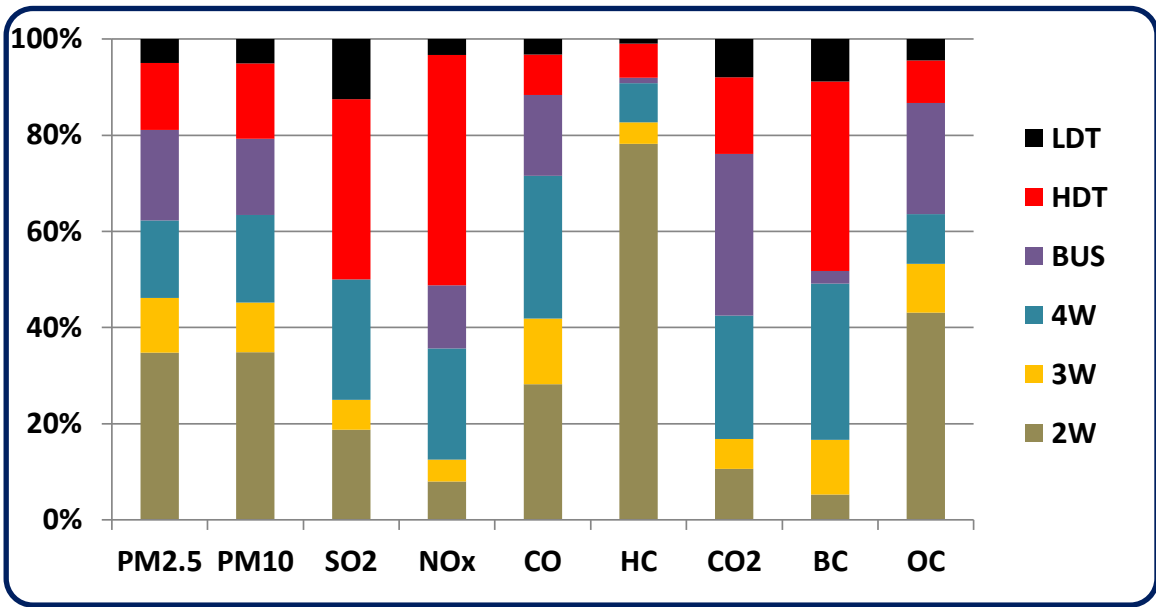


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

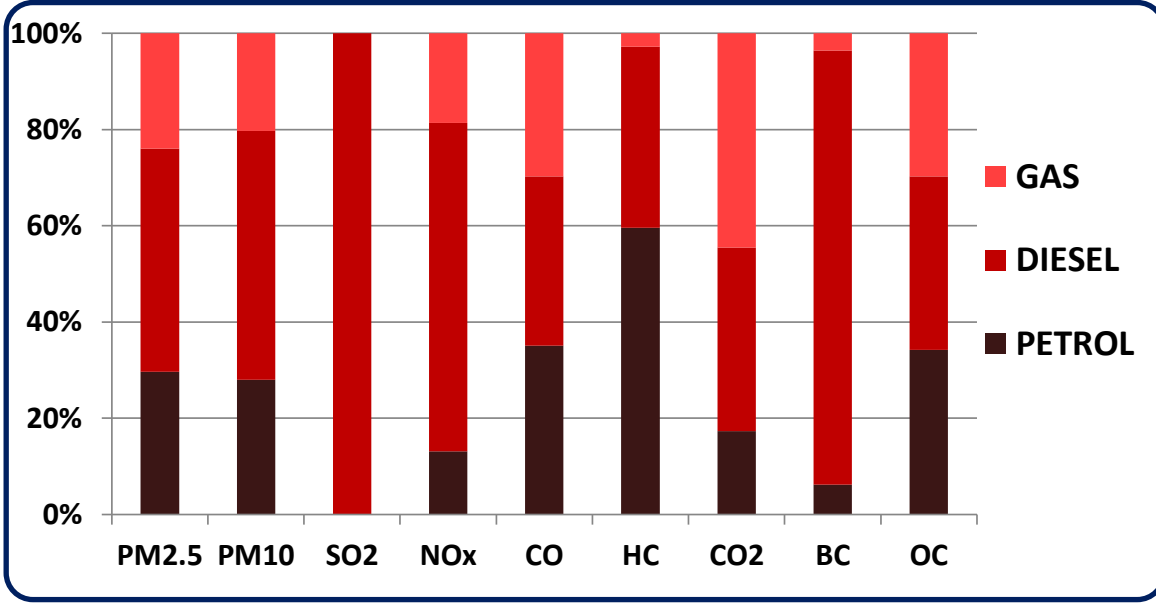
2010

STATE: DELHI

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	2,760	900	1,280	1,490	1,110	390	7,910	tons
PM10	3,270	970	1,700	1,490	1,470	470	9,360	tons
SO2	30	10	40	-	60	20	140	tons
NOx	4,750	2,700	13,670	7,810	28,350	1,950	59,200	tons
CO	47,070	22,690	49,440	28,110	14,010	5,290	166,590	tons
VOC	51,280	2,930	5,330	790	4,650	590	65,550	tons
CO2	1.2	0.7	2.9	3.8	1.8	0.9	10.9	mill tons
BC	60	130	370	30	450	100	1,120	tons
OC	1,660	390	400	890	340	170	3,820	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	2,350	3,670	1,900	-	7,910
PM10 (tons)	2,620	4,850	1,900	-	9,360
SO2 (tons)	-	140	-	-	140
NOx (tons)	7,770	40,420	11,020	-	59,200
CO (tons)	58,480	58,550	49,570	-	166,590
VOC (tons)	39,050	24,700	1,810	-	65,550
CO2 (mil tons)	1.9	4.2	4.9	-	10.9
BC (tons)	70	1,020	40	-	1,120
OC (tons)	1,310	1,380	1,140	-	3,820

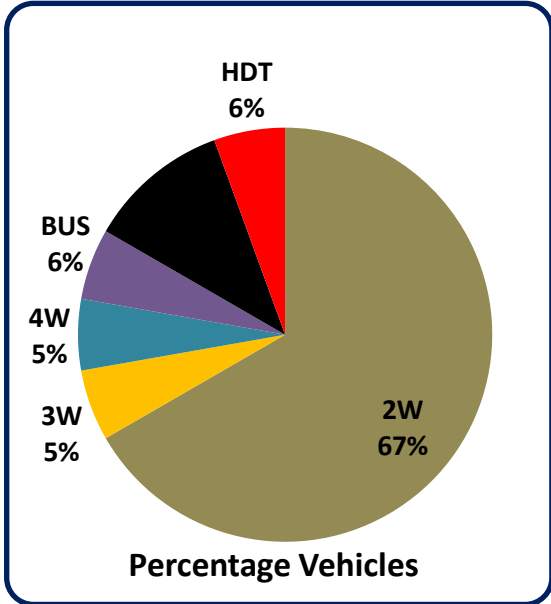
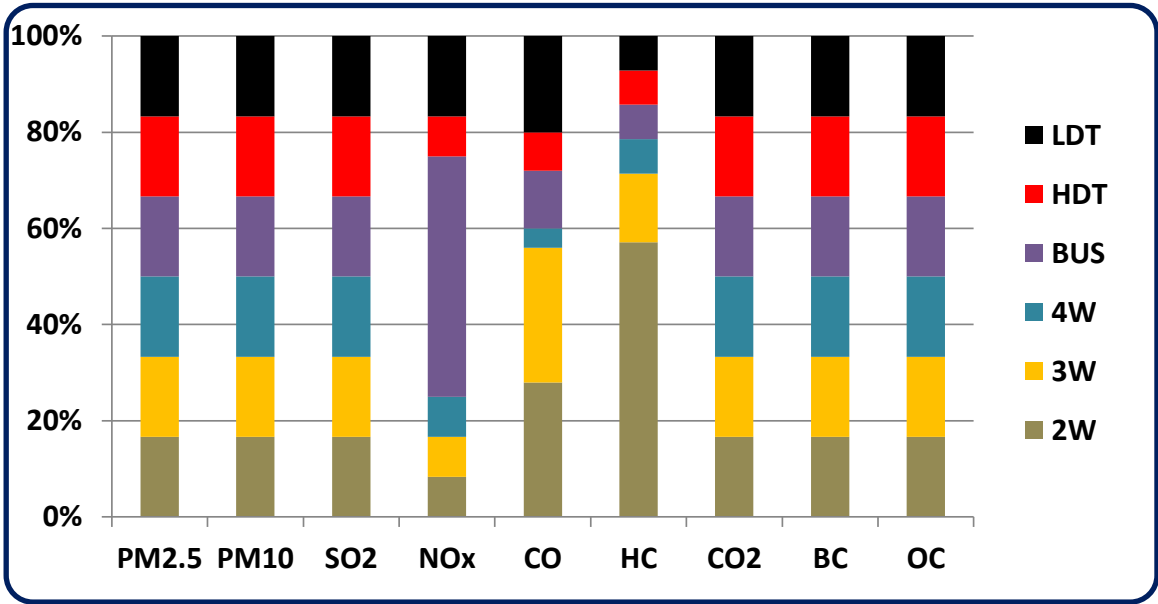


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

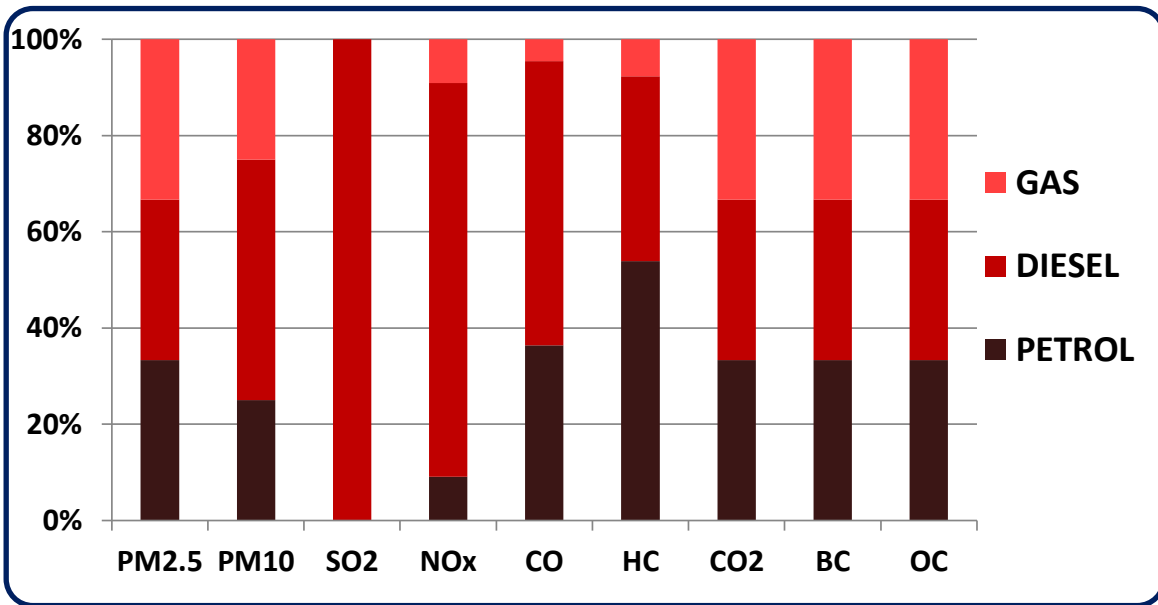
2010

STATE: LAKSHADWEEP

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	10	10	10	10	10	10	20	tons
PM10	10	10	10	10	10	10	20	tons
SO2	10	10	10	10	10	10	10	tons
NOx	10	10	10	60	10	20	90	tons
CO	70	70	10	30	20	50	220	tons
VOC	80	20	10	10	10	10	110	tons
CO2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	mill tons
BC	10	10	10	10	10	10	10	tons
OC	10	10	10	10	10	10	10	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	10	10	10	-	20
PM10 (tons)	10	20	10	-	20
SO2 (tons)	-	10	-	-	10
NOx (tons)	10	90	10	-	90
CO (tons)	80	130	10	-	220
VOC (tons)	70	50	10	-	110
CO2 (mil tons)	0.1	0.1	0.1	-	0.1
BC (tons)	10	10	10	-	10
OC (tons)	10	10	10	-	10

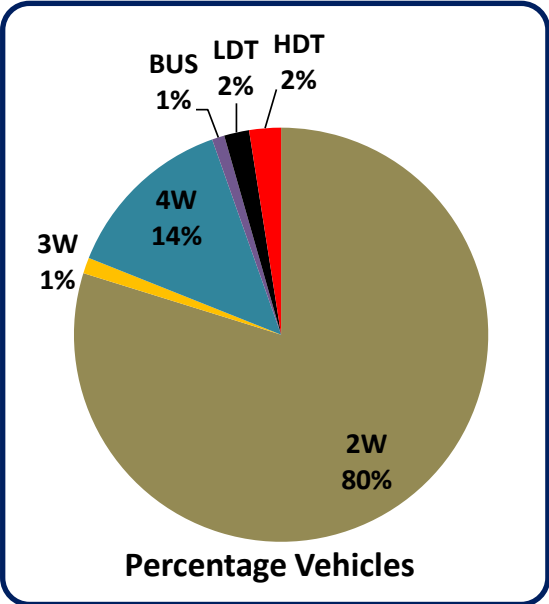
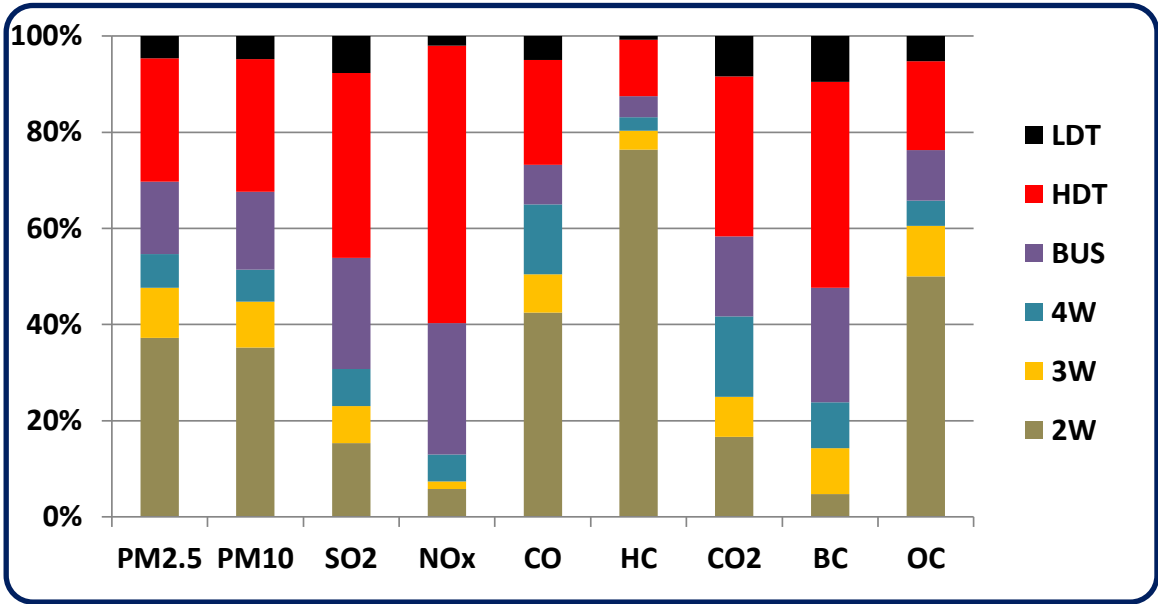


PM = particulate matter; PM2.5 = PM less than 2.5 μm diameter; PM10 = PM less than 10 μm ; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks

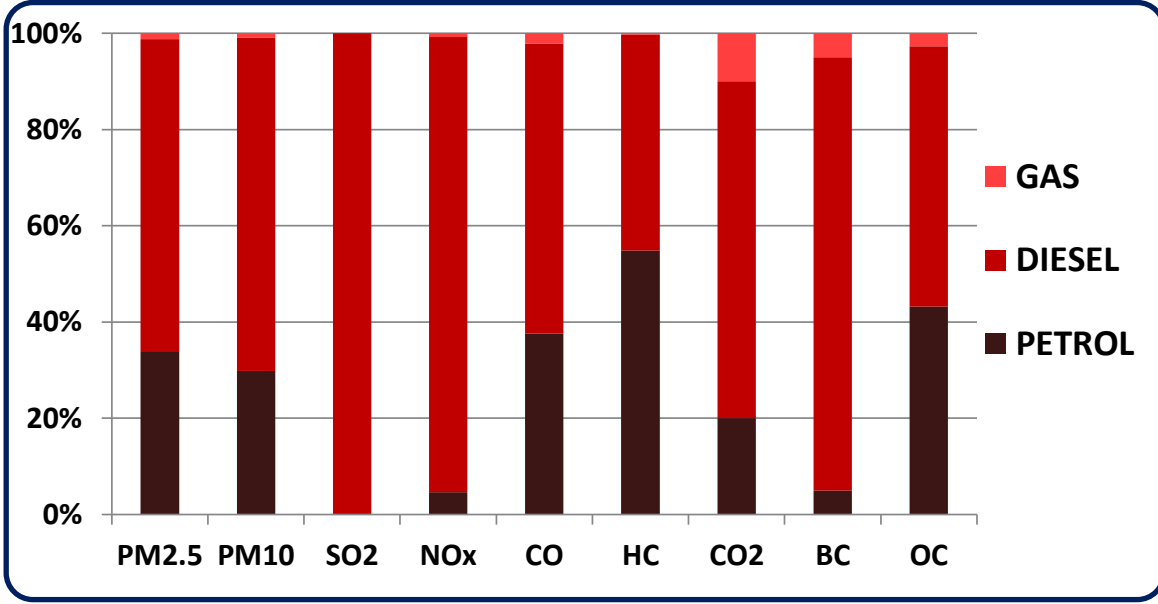
2010

STATE: PUDUCHERRY

per year	2W	3W	4W	BUS	HDT	LDT	TOTAL	
PM2.5	320	90	60	130	220	40	830	tons
PM10	370	100	70	170	290	50	1,030	tons
SO2	20	10	10	30	50	10	90	tons
NOx	540	140	520	2,530	5,350	180	9,240	tons
CO	5,320	990	1,820	1,030	2,730	620	12,470	tons
VOC	5,790	300	210	330	890	60	7,550	tons
CO2	0.2	0.1	0.2	0.2	0.4	0.1	0.9	mill tons
BC	10	20	20	50	90	20	190	tons
OC	190	40	20	40	70	20	350	tons



per year	PETROL	DIESEL	GAS	Other	TOTAL
PM2.5 (tons)	280	540	10	-	830
PM10 (tons)	310	720	10	-	1,030
SO2 (tons)	-	90	-	-	90
NOx (tons)	430	8,760	70	-	9,240
CO (tons)	4,700	7,520	270	-	12,470
VOC (tons)	4,150	3,400	20	-	7,550
CO2 (mil tons)	0.2	0.7	0.1	-	0.9
BC (tons)	10	180	10	-	190
OC (tons)	160	200	10	-	350



PM = particulate matter; PM2.5 = PM less than 2.5 µm diameter; PM10 = PM less than 10 µm; SO2 = sulfur dioxide; NOx = nitrogen oxides; CO = carbon monoxide; HC = volatile organic compounds; CO2 = carbon dioxide; BC = black carbon; OC = organic carbon; 2W = 2-wheeler motorcycles; 3W = 3-wheeler para-transit; 4W = cars, utility vehicles, and taxis; BUS = public and private buses; LDT = light duty trucks; HDT = heavy duty trucks