



ENVIS CENTRE, CHANDIGARH

# NewsLetter

P a r y a v a r a n - P a t r a

## Chandigarh State of Environment

### EDITORIAL

Transportation and tourism are the discs of backbone of any city in fact contributing to face value of a nation. Chandigarh Administration and MC have jointly taken steps to strengthen the backbone. The number of hotels and gardens are on increase and so is number of international tourists. Chandigarh being situated on the way to Shimla, the queen of hills, is favorable stoppage on the way. Chandigarh is well connected to rest of India by road and international airport would get it connected to globe by air.

Chandigarh is an IT hub of the region and hence proving educational and career opportunities to me many. Chandigarh dons a modern look to facilitate international level facilities like five star hotels coming up. It has well developed IT facilities like internet etc.

Chandigarh is fondly called 'City Beautiful'. I feel it is only because of aware residents and conscious Administration. It is duty of each and every individual enjoy the environment of the city to keep it clean and green.

Additional Director, Environment



Rock Garden



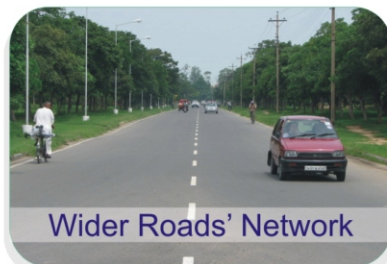
Sukhna Lake



Chandigarh War Memorial



Cultural Bonanza



Wider Roads' Network



Green and Clean

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## Transportation

Chandigarh boasts one of the best transportation systems in the country with respect to its geographical area and ratio of vehicles per capita. Within the confined area of 114 sq. km., over 7 lakh vehicles are registered. Thousands of vehicles ply to and fro from neighbor cities. With 2587 km of roads city host finest infrastructure for vehicles and at the same time has won accolades for the best facilities for pedestrians.

Chandigarh, developed as model city, is happening place which is urbanized for the best of tourism and livable conditions. Over the period of time the commercial activities and job opportunities have lured many to make city their home. It is educational hub as well as IT hub of the north region of India.

In context of tourism facilities and transportation, both are directly proportional. Better transportation and reach means better tourism facilities. At the same time transportation and environment are indirectly proportional. More of transportation facilities cost natural environmental values. In fact vehicular pollution is the major cause of deteriorating air quality of Chandigarh. Every year thousands of vehicles are being added to the already confined roads.

Year Wise Registration							
Year	Cars /Jeep	Motor Cycle /Scooter /Moped	Auto Rikshaw, Three Wheeler (Passenger)	Buses	Goods Vehicle	Tractors	Total
2005	10265	19216	86	93	34	6	29700
2006	12893	20649	75	102	44	12	33775
2007	13812	19170	72	88	81	33	33256
2008	15129	18145	128	64	94	14	33574
2009	18293	18112	1329	31	98	18	37881
Total Since 1967	222390	507139	3392	4156	4061	83	741221

RLA, Chandigarh

Data indicates that number of vehicles' registration is on continuous increase. 36881 vehicles were registered by registering and licencing authority of Chandigarh in 2009. In total 741221 vehicles are registered in Chandigarh. The figures excludes the number taxis and some other vehicles which are registered by State Transport Authority.

## Types of Fuels and Pollution

Table shown on the next page indicates the various types of common fuels and their environmental impact. It is found that fossil fuel pollutes the air. LPG on the other hand is cleaner fuel with the following properties:

1. Low carbon to hydrogen ratio means lower emissions of  $\text{CO}_2$
2. More energy per kilogram in comparison to other fuels
3. LPG is not a Green House Gas and is assigned to Zero Global Warming Potential

Chandigarh Administration has taken a note of it and has made a decision of converting all fuel driven autos of the city to LPG. Also, Solar Rikshaws are introduced. Battery operated vehicles are subsidized. Concepts like energy park are being developed to spread better awareness among the residents.





## TYPES OF FUELS AND POLLUTION

	Gasoline	Diesel	Biodiesel	CNG	Electricity	Hydrogen	Liquefied Petroleum Gas (LPG)
<b>Chemical Structure</b>	C <sub>4</sub> to C <sub>12</sub>	C <sub>10</sub> to C <sub>20</sub>	Methyl esters of C <sub>16</sub> -C <sub>18</sub> fatty acids	CH <sub>4</sub>	N/A	H <sub>2</sub>	C <sub>3</sub> H <sub>8</sub>
<b>Main fuel source</b>	Crude Oil	Crude Oil	Soy bean oil, waste cooking oil, animal fats, and rapeseed oil	Underground reserves	Coal; however, nuclear, natural gas, hydroelectric, and renewable resources can also be used.	Natural Gas, Methanol, and other energy sources	A by-product of petroleum refining or natural gas processing
<b>Physical State</b>	Liquid	Liquid	Liquid	Compressed Gas	N/A	Compressed Gas	Liquid
<b>Environmental Impacts of Burning the Fuel</b>	Produces harmful emissions; however, gasoline and gasoline vehicles are rapidly improving and emissions are being reduced.	Produces harmful emissions; however, diesel and diesel vehicles are rapidly improving and emissions are being reduced especially with after-treatment devices.	Reduces particulate matter and global warming gas emissions compared to conventional diesel; however, NO <sub>x</sub> emissions may be increased.	CNG vehicles can demonstrate a reduction in ozone-forming emissions compared to some conventional fuels; however, HC emissions may be increased.	EVs have zero tailpipe emissions; however, some amount of emissions can be contributed to power generation.	Zero regulated emissions for fuel cell-powered vehicles, and only NO <sub>x</sub> emissions possible for internal combustion engines operating on hydrogen.	LPG vehicles can demonstrate a 60% reduction in ozone-forming emissions compared to reformulated gasoline.
<b>Energy Security Impacts</b>	Manufactured using mostly imported oil, which is not an energy secure option.	Manufactured using imported oil, which is not an energy secure option.	Biodiesel is domestically produced and has a fossil energy ratio of 3.3 to 1, which means that its fossil energy inputs are similar to those of petroleum.	CNG is domestically produced. The United States has vast natural gas reserves.	Electricity is generated mainly through coal fired power plants. Coal is the United States energy resource and coal is our most economical and price stable fossil fuel.	Reduce U.S. dependence on foreign oil by being produced from renewable resources.	LPG is the most widely available alternative fuel with an estimated 3,400 refueling sites nationwide. The disadvantage of LPG is that 45% of the fuel in the U.S. is derived from oil.

[http://www.afdc.energy.gov/afdc/pdfs/afv\\_info.pdf](http://www.afdc.energy.gov/afdc/pdfs/afv_info.pdf)

★ Fuel Shift to LPG

Fuel shift to LPG			
Year	Vehicle	Fuel	Value
2005	Auto Rickshaws/Three Wheelers	LPG	-
2006	Auto Rickshaws/Three Wheelers	LPG	-
2007	Auto Rickshaws/Three Wheelers	LPG	
2008	Auto Rickshaws/Three Wheelers	LPG	51
2009	Auto Rickshaws/Three Wheelers	LPG	1162

Fuel shift to LPG			
Year	Vehicle	Fuel	Value
2005	Four Wheeler	LPG	3
2006	Four Wheeler	LPG	13
2007	Four Wheeler	LPG	7
2008	Four Wheeler	LPG	39
2009	Four Wheeler	LPG	197

RLA, Chandigarh

Per Day Trains (Up)	
Year	Values
2007	16
2008	16
2009	16

Per Day Trains (Down)	
Year	Values
2007	16
2008	16
2009	16

★ Railways

Railway in Chandigarh has shown dynamic trend. It has shown consistent increase in daily passengers until 2009. With many things in pipelines, new routes and metro etc, Chandigarh Railway is looking forward to better future. Presently 16 rains commutes up and down from and to Chandigarh.

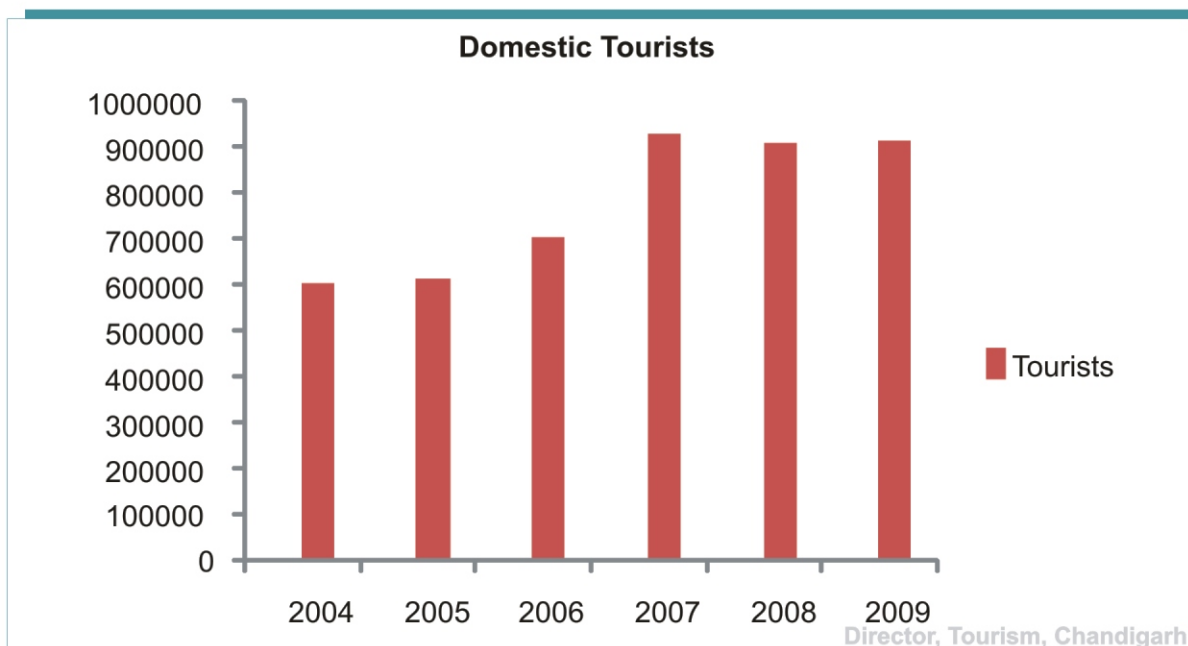
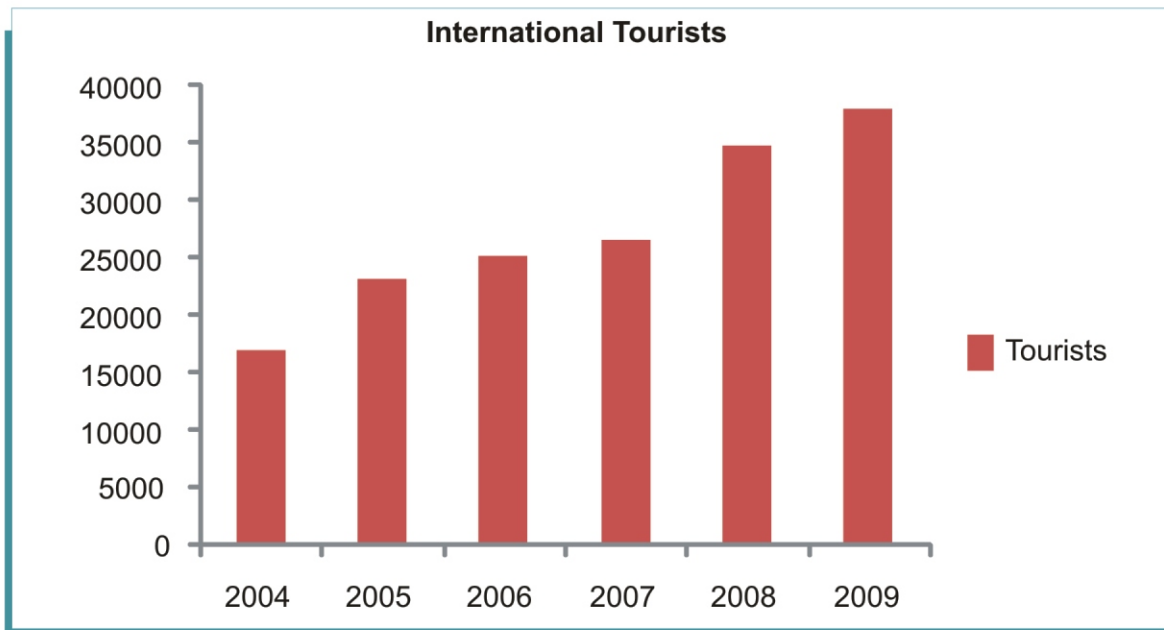
People Travelled Per Day in Trains	
Year	Values
2005	5000
2006	5500
2007	7000
2008	8000
2009	6,000

Station Superintend, NR, Chandigarh

## Tourism In Chandigarh

Chandigarh is called 'City Beautiful' by many for its green open spaces, wider roads, architectural beauty, Gardens, and tourist places. It has unique status of UT and capital of two states. Despite of commercial growth over the last decades, Chandigarh has been able to preserve and conserve the architectural and natural beauty.

Chandigarh has many places to visit including capitol complex, rock garden, sukhna lake, Rajiv Gandhi technology park, kansal and nepli forests, botanical garden, and Chandigarh war memorial etc. Chandigarh has many museums to visit, listed as Chandigarh Architecture Museum, Government Museum and Art Gallery, International Dolls Museum, Museum of Fine Arts, National Gallery of Portraits, Natural History Museum, Punjab & Haryana High Court Museum.



Director, Tourism, Chandigarh



**Tourist Places in Chandigarh**

Name	Location	Year
Chandigarh Architecture Museum	Sector -10	2009
Government Museum and Art Gallery	Sector -10	2009
International Dolls Museum	Bal Bhavan, Sector -23	2009
Museum of Fine Arts	Panjab University, Sector -14	2009
National Gallery of Portraits	T.S. Central State Library, Sector-17	2009
Natural History Museum	Sector -10	2009
Punjab & Haryana High Court Museum	High Court Complex, Sector -1	2009

Chandigarh has ample space for culture and Heritage which is conserved in museums. Chandigarh Administration is developing the city has tourist hub and continuously enriching the places of tourists' interest which is evident from the graph. Chandigarh has seen consistent rise in the international tourists and upcoming International airport would add up only.



Director, Tourism, Chandigarh



Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.

Your feedback is valuable to us and will be highly appreciated



- Name \_\_\_\_\_
- Designation \_\_\_\_\_
- Department \_\_\_\_\_
- Address \_\_\_\_\_
- \_\_\_\_\_ City \_\_\_\_\_
- State \_\_\_\_\_ Country \_\_\_\_\_ Pin \_\_\_\_\_
- Phone \_\_\_\_\_ Fax \_\_\_\_\_
- Email \_\_\_\_\_

Your views on scope of improvement :

- Interest Area \_\_\_\_\_

I would like to have information on following :



#### ENVIS CENTRE TEAM

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**Mr. P.J.S. Dadhwal**  
(Project Coordinator)

**Er. Arun Bansal**  
(Sr. Programme Officer)

**Mr. Surinder Kumar**  
(Data Entry Operator)

#### Chandigarh, help keeping it green and clean

- ☼ Visit Chandigarh, enjoy Chandigarh, and respect Chandigarh
- ☼ Teach your Children to conserve and preserve by setting examples of self
- ☼ Use dustbins and don't litter
- ☼ Know more about Chandigarh and its history
- ☼ Take interest in the Environment and related activities
- ☼ Support NGOs and help Administration and MC working progressively
- ☼ Learn more about eco-clubs and environment societies
- ☼ Organize local camps and campaigns
- ☼ Participate for the noble cause, Environment

#### International Dolls' Museum

Come to play with us



I have many stories



SPO, ENVIS, Chandigarh

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To,

Book Post

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