Metro Cebu:
INTEGRATING LAND USE
AND TRANSPORT DEVELOPMENT

Background

The name Cebu came from the word “sebu” meaning animal fat. Long before the coming of the Spaniards, it was a fishing village ruled by Rajah Humabon. Cebu metamorphosed in more ways than one, but always for the better. From a sleepy fishing village to a fledging trading port in 1521, from the first Spanish settlement named Villa del Santísimo Nombre de Jesús in 1575 to a municipality in 1901, Cebu finally became a chartered city on February 24, 1937. Cebu is replete with historical firsts being the first and oldest city in the country, antedating Manila by 7 years, having the oldest school and oldest street and being the cradle of Christianity in the Far East.

Profile of the City

Cebu City is located on the central eastern part of Cebu province, an island at the center of the Visayas in Southern Philippines. It is bounded by Mandaue City in the North and the municipality of Talisay in the South. On the East is Mactan Channel and on the West are the municipality of Balamban and the city of Toledo. Cebu City is accessible from all places by air and sea transport. It only takes an hour or less by plane from Cebu to reach Manila and just a few hours more to reach most of the cities in the Asia Pacific region.

Cebu City has an area of 326.10 km². Considering this, Cebu’s total land area is equivalent to six percent of the entire province of Cebu, the largest among the seven cities and 48 municipalities in the province. The city is composed of 80 barangays grouped into 46 South District barangays and 34 North
District barangays. Cebu City’s flat land occupies about 23 square km², representing eight (8%) percent of its total land area but it contains over 40 barangays and about two thirds of the city’s population.

Cebu City is the second biggest growth center in the country next only to Metro Manila. In contrast with other localities whose economy is based on agriculture, mining or manufacturing, Cebu City is more dependent on trade and service activities that now accounts for almost three fourths of its employment. The dominance of trade and service activities in the City is made possible by its strategic location in the central part of the Visayas and a good seaport. Surplus products from Cebu Island including those coming from the nearby provinces in Central Visayas and Mindanao are normally brought to the City for export or processing and redistribution to other parts of the country. Many products manufactured in Manila or imported from abroad are also channeled to Cebu prior to their distribution to the different provinces in the Visayas and Mindanao.

Because of its vibrant trading activities, many financial institutions and other supporting business activities are also located in the City. Allied with the trading and financial services in the city is the growing tourism industry. The growth of tourism is made possible by many recreation, entertainment and shopping facilities in the City.

The City is also well-known for its rich cultural heritage and history. It is considered the cradle of Christianity in Asia and the first city built by Spaniards in the country. Besides business and tourism, the city is also the center of health, educational and other important social and professional services that meet the needs of the people of the city and of those coming from other provinces in southern Philippines. The presence of many services and amenities makes Cebu City one of the most livable cities in Asia.

Development Challenges

In 2000, Cebu City had a population of 718,821 and about 89% of which is urban (Cebu CLUP 2000). The annual population growth rate for the period of 1990 to 2000 was 1.73%, relatively lower than the whole province of Cebu (2.41%), Region 7 (2.19%) or the Philippines (2.34%). The population growth rate in urban areas was 1.33% per year, but it is interesting to note that there has been a lower influx of population to the urban areas when the rural population growth rate was higher at 3.97% annually for the same period. The slumping urban population of the city, accordingly among the lowest in the country, is attributed to the recent outward migration to the neighboring cities and municipalities. Table 1 shows the history of population of Cebu City from 1903 to 2000.

**Table 1. Cebu City Population History**

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Total City Population</th>
<th>Percent (%) to Province’s Total</th>
<th>Intercensal Population Change</th>
<th>Intercensal Change Average/Yr.</th>
<th>% Annual Average Growth Rate</th>
<th>Population Density (Pop./Sq. km.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1903</td>
<td>45,994</td>
<td>7.71</td>
<td></td>
<td></td>
<td></td>
<td>141.1</td>
</tr>
<tr>
<td>1918</td>
<td>65,502</td>
<td>8.52</td>
<td>19,508</td>
<td>1,300</td>
<td>2.36</td>
<td>200.9</td>
</tr>
<tr>
<td>1939</td>
<td>146,517</td>
<td>16.24</td>
<td>81,315</td>
<td>3,872</td>
<td>3.84</td>
<td>450.2</td>
</tr>
<tr>
<td>1948</td>
<td>167,503</td>
<td>17.88</td>
<td>20,686</td>
<td>2,068</td>
<td>1.32</td>
<td>5413.7</td>
</tr>
<tr>
<td>1960</td>
<td>251,146</td>
<td>23.86</td>
<td>83,643</td>
<td>8,970</td>
<td>3.38</td>
<td>770.2</td>
</tr>
<tr>
<td>1970</td>
<td>347,116</td>
<td>28.26</td>
<td>95,970</td>
<td>9,597</td>
<td>3.24</td>
<td>1,064.4</td>
</tr>
<tr>
<td>1975</td>
<td>413,025</td>
<td>31.07</td>
<td>65,909</td>
<td>13,181</td>
<td>3.48</td>
<td>1,266.6</td>
</tr>
<tr>
<td>1980</td>
<td>490,281</td>
<td>32.88</td>
<td>77,256</td>
<td>15,451</td>
<td>3.43</td>
<td>1,503.5</td>
</tr>
<tr>
<td>1990</td>
<td>610,417</td>
<td>32.89</td>
<td>120,136</td>
<td>12,013</td>
<td>2.19</td>
<td>1,871.9</td>
</tr>
<tr>
<td>1995</td>
<td>662,299</td>
<td>32.09</td>
<td>51,862</td>
<td>10,376</td>
<td>1.64</td>
<td>2,031.0</td>
</tr>
<tr>
<td>2000</td>
<td>718,821</td>
<td>30.23</td>
<td>56,522</td>
<td>11,304</td>
<td>1.77</td>
<td>2,204.0</td>
</tr>
</tbody>
</table>
The metropolitan area Metro Cebu is comprised of ten local government units including the cities of Cebu, Mandaue, Lapu-Lapu and Talisay, and six adjacent municipalities: Naga, Minganilla, Liloan, Consolacion, Cordova and Compostela as defined by the Cebu Integrated Area Development Master Plan Study (CIADMPS) in 1994. In the 1970 census, the population of Metro Cebu was just a little over half a million. This number doubled during the 1990s as the population hit over a million. From then on it steadily increased along with the rapid economic growth in the early 90s.

The share of Cebu City’s population to Metro Cebu’s decreased from 53% in 1970 to 42% and 39% in 2000 and 2007, respectively (Table 2). Among the component cities and municipalities of Metro Cebu, Cebu City itself had a decelerating growth rate for the past three decades while the adjoining cities and municipalities were growing comparatively faster.

<table>
<thead>
<tr>
<th>City/Municipality</th>
<th>Population 2000</th>
<th>% Share 2000</th>
<th>Population 2007</th>
<th>% Share 2007</th>
<th>Population Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cebu City</td>
<td>718,821</td>
<td>42.44%</td>
<td>798,809</td>
<td>38.97%</td>
<td>1.52%</td>
</tr>
<tr>
<td>Mandaue City</td>
<td>259,728</td>
<td>15.33%</td>
<td>318,575</td>
<td>15.54%</td>
<td>2.96%</td>
</tr>
<tr>
<td>Lapu-Lapu City</td>
<td>217,019</td>
<td>12.81%</td>
<td>292,530</td>
<td>14.27%</td>
<td>4.36%</td>
</tr>
<tr>
<td>Talisay City</td>
<td>148,110</td>
<td>8.74%</td>
<td>179,359</td>
<td>8.75%</td>
<td>2.77%</td>
</tr>
<tr>
<td>Naga</td>
<td>80,189</td>
<td>4.73%</td>
<td>95,163</td>
<td>4.64%</td>
<td>2.48%</td>
</tr>
<tr>
<td>Minganilla</td>
<td>77,268</td>
<td>4.56%</td>
<td>101,585</td>
<td>4.96%</td>
<td>3.99%</td>
</tr>
<tr>
<td>Liloan</td>
<td>64,970</td>
<td>3.84%</td>
<td>92,181</td>
<td>4.50%</td>
<td>5.12%</td>
</tr>
<tr>
<td>Consolacion</td>
<td>62,298</td>
<td>3.68%</td>
<td>87,544</td>
<td>4.27%</td>
<td>4.98%</td>
</tr>
<tr>
<td>Cordova</td>
<td>34,032</td>
<td>2.01%</td>
<td>45,000</td>
<td>2.20%</td>
<td>4.09%</td>
</tr>
<tr>
<td>Compostela</td>
<td>31,446</td>
<td>1.86%</td>
<td>39,167</td>
<td>1.91%</td>
<td>3.19%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,693,881</strong></td>
<td><strong>100.00%</strong></td>
<td><strong>2,049,979</strong></td>
<td><strong>100.00%</strong></td>
<td><strong>Ave 2.76%</strong></td>
</tr>
</tbody>
</table>

This trend of emigration from Cebu City has come along with the rapid growth of its core hub over the years which undoubtedly congested the entrails of the old city. People were drawn off to the peripheries, which in recent years have experienced the sprawling of Cebu’s vibrant economic activities, especially with the establishment of Mactan Export Processing Zone and the Mactan International Airport both located outside Cebu City. In addition to that, many firms and factories also set up in outlying areas such as the cities of Mandaue and Lapu-Lapu, consequently attracting skilled workers from Cebu City and the vicinity. On the other hand, the rapid population growth rate of other municipalities such as of Liloan, Minganilla, Cordova and Consolacion can be accounted for by the extension of the mass housing developers on these areas due to the high land price in the cities and their apparent lack of space for expansion.

According to the Cebu City CLUP, the population density of the city in year 2000 was 2,370 persons per km². Metro Cebu only had an average density of 1,990 persons per km² in the same period while the whole province only had 603 persons. Within Metro Cebu, Mandaue City had the highest density of 6,743 persons per square kilometer, followed by Cordova with 3,145 and Talisay with 3,062. While Cebu City’s average density in 2000 was lower than in the three places mentioned, the city actually had a higher average density of 7,753 persons per square kilometer in its urban area.
Key Transport and Environment Issues

Poor Road Network

With the rapid urbanization and population growth of its peripheries in recent years, Cebu City’s transport problems did not differ much from the ones confronting Metro Manila and other rapidly urbanizing cities in the world. The Cebu City Strategic Master Plan Study (CCSMPS) identified the following major transport deficiencies in Metro Cebu:

- Sub-standard cross sectional roads;
- Primary and secondary road network not functioning as network;
- Urban functions are heavily concentrated in the central business district (CBD) of Cebu and Mandaue where road network improvement is difficult to introduce;
- Lack of continuity of some road links and poor geometric designs of road links and intersections which aggravate road congestion; and
- Unavailability of segregated service roads to major retail centers. On-street parking minimizes the carrying capacities of most roads.

The city suffers from traffic problems because of its narrow, congested and poorly connected roads. The problems are also aggravated by the concentration of work, school, medical, shopping, and other private and public services located in the heart of the city. Further aggravating the situation is the continuing increase in population and number of vehicles. The recent construction or widening and improvement of existing of roads are still behind the increase in the volume of traffic in the city (Cebu City CLUP, 2000).

Increasing Motorization

In 1994-1999, Cebu City’s share of the total vehicles registered in Cebu Province ranged from 40 to 55%. From 1994 to 2000, motor vehicle registration in Cebu City tremendously increased by 42.1% with an average annual growth rate of 7.0% while the increment in 2000 to 2006 was halved to 21.4% or an average annual growth rate of 3.6% (Figure 1). In 2000-2006, the share of diesel-fueled vehicles and the share gasoline-fueled vehicles in Cebu Province were almost constant at 20% and 80%, respectively (Table 3).

Based on the 1979 Metro Cebu Land Use and Transport Study (MCLUTS) report and the 1992 Home Interview Supplemental Survey conducted by the Metro Cebu Development Project (MCDP) Phase 3, the Metro Cebu Trip Demand Projection estimated that the share of trips using the private modes increased from 9.7% in 1979 to 20.6% in 1992 while the share of trips using public transport decreased from 90.3% in 1979 to 79.4% in 1992.

It is anticipated that Cebu City will experience a declining rate of person-trips since there is also a decline in the population growth rate. This can be attributed to the present development pattern of Metro Cebu characterized by a linear dispersed development with the start of mainland reclamation. These findings were confirmed by the Special Assistance for Project Formation (SAPROF) team of the Overseas Economic Cooperation Fund (OECF) of Japan and supported by the developments projects identified and implemented by the Metro Cebu Development Project (Cebu City Strategic Master Plan Study, 2005).
Figure 1. Motor Vehicle Registration in Cebu City

Table 3. Vehicle registration by fuel type in Cebu Province, 2000-2006

<table>
<thead>
<tr>
<th>Year</th>
<th>% Share of gasoline-fueled</th>
<th>% Share of diesel-fueled</th>
<th>Total no. of vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>79.26</td>
<td>20.74</td>
<td>295,181</td>
</tr>
<tr>
<td>2001</td>
<td>79.91</td>
<td>20.09</td>
<td>327,218</td>
</tr>
<tr>
<td>2002</td>
<td>79.72</td>
<td>20.28</td>
<td>360,962</td>
</tr>
<tr>
<td>2003</td>
<td>80.06</td>
<td>19.94</td>
<td>392,160</td>
</tr>
<tr>
<td>2004</td>
<td>79.31</td>
<td>20.69</td>
<td>469,139</td>
</tr>
<tr>
<td>2005</td>
<td>81.99</td>
<td>18.01</td>
<td>399,216</td>
</tr>
<tr>
<td>2006</td>
<td>79.91</td>
<td>20.09</td>
<td>456,239</td>
</tr>
</tbody>
</table>

Source: Land Transportation Office (LTO)

Traffic Congestion

Travel speeds of selected corridors in Cebu City by time of day were surveyed by CITOM in 2005. The travel speeds of Osmena Boulevard towards the coastal area ranged from 7 to 17 kph with an average of 10 kph while the travel speed of Juan Luna St. ranged from 4 to 18 kph with a similar average of 10 kph. This indicates that these corridors experience traffic congestion at all times of the day. From the coastal area, the travel speeds of Osmena Boulevard had a similar range from 6 to 17 kph with an average of 10 kph while the same was true for Juan Luna with a range of 4 to 21 kph at an average of 8 kph.
Low Service Levels of Public Transport

Cebu City’s public transport is mainly road-based. There are three modes of public transportation excluding 2 or 3-wheelers (CITOM, 2007), namely:

- Public Utility Jeepneys (PUJs) - 8,329 units
- Taxi - 5,788 units
- Buses and Mini Buses - 952 units

The following are the issues on public transportation according to CITOM:

- too many jeepneys/vehicles on the road and there is no new infrastructure improvements in the city;
- uncontrolled/unlimited issuance of franchise for the public utility vehicles and issues concerning travel lines;
- undisciplined drivers and pedestrians;
- rampant use of motorcycles for public transport known as the “habal-habal”;
- illegal parking; and
- sidewalk encroachment and sidewalk vendors

Decrease in Public Transport Patronage

The share of trips using the private modes increased from 9.7% in 1979 to 20.6% in 1992 while the share of trips using public transport drastically decreased from 90.3% in 1979 to 79.4% in 1992 (Table 4). It is anticipated that the Metro Cebu will experience an overall increasing rate of person-trips due to rapid population growth and urbanization.

<table>
<thead>
<tr>
<th>Mode</th>
<th>1979</th>
<th>1992</th>
<th>2012*</th>
<th>2020*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>110,500</td>
<td>9.7%</td>
<td>305,666</td>
<td>20.6%</td>
</tr>
<tr>
<td>Public</td>
<td>1,028,900</td>
<td>90.3%</td>
<td>1,180,408</td>
<td>79.4%</td>
</tr>
<tr>
<td>Total</td>
<td>1,139,400</td>
<td>100.0</td>
<td>1,486,074</td>
<td>100.0</td>
</tr>
<tr>
<td>Trip Rate</td>
<td>1.10</td>
<td></td>
<td>1.26</td>
<td></td>
</tr>
</tbody>
</table>

Notes: *projected using regression  
Source: Cebu City CLUP (2000)

Air Pollution

According to the Cebu City CLUP (2000), air pollution is now an increasing problem in the city. In the absence of heavy industries or thermal and coal fired plants in the city, the deterioration of air quality is mainly attributed to emissions from motor vehicles. Severe air pollution is now observed in many areas of the city particularly in major roads.
Data on the annual average concentration of total suspended particulates (TSP) in 1995 to 2006 in various air quality monitoring stations of the Environmental Management Bureau (EMB) in Metro Cebu were obtained (Figure 2). In 1995-2000, all stations were observed to exceed the 1-year ambient air quality guideline value for TSP of 90 mcg/N. cu. m. with peak concentrations occurring in 1999. In 2001-2005, there has been a slight improvement due to presence of annual average concentration values below the guideline value. Around 1-2 stations still exceed the guideline value. With few available data, the annual average concentrations of PM10 were also obtained and it was observed that there was one station that exceeded the guideline value of 60 mcg/N. cu. m. in 2002-2003 (Figure 3). This indicates that air pollution is still a continuing problem for the city.

![Figure 2. Annual Average TSP Level (ug TSP/Ncm) in Selected Stations in Metro Cebu](image)

![Figure 3. Annual Average Concentration of Other Air Quality Parameters (ug TSP/Ncm) in Metro Cebu](image)
The annual average concentrations of other pollutants such as sulfur dioxide, nitrogen dioxide and ozone recorded in the DENR-EMB Monitoring Station in the University of San Carlos (USC) in Talamban in 2003 also indicated that the ambient air concentrations of these three criteria pollutants are still below the guideline values.

The Land Transportation Office (LTO) and the CITOM have been undertaking an anti-smoke belching campaign since 1995. From 1995 until 1999, the number of units that were apprehended by CITOM totaled 10,670; 9,418 units of which were tested and 5,948 were issued compliance.

The Philippines Environment Monitor study (World Bank 2002) quantified the detrimental effect of air pollution on the health, productivity and quality of life into economic values and it estimated that the total cost of the exposure to PM10 in the four cities of Metro Manila, Baguio, Cebu and Davao adds up to over US$430 million. Among the four cities, Cebu City ranked second to Metro Manila in derived costs, which in 2001 was equivalent to US$16 million.

Road Traffic Accidents

The number of accidents in Cebu City in 2000-2006 ranged from 14,000 in 2000 to around 10,000 in 2006. The number of accidents is quite high considering that Metro Manila recorded a maximum of 11,185 accidents in 2005 in its 2002-2005 data.

Transport Management Context

Fortunately for the city, it was able to undertake or had been the recipient of projects initiated somewhere else even without a long term plan. One source of major project ideas for the city in the past was the Metro Cebu Land Use and Transport Study (MCLUTS). The study was initiated by the Ministry of Public Works, Transportation and Communications (MPWTC). The study was completed after almost 20 years in 1981. Many projects recommended by MCLUTS for undertaking in Metro Cebu were implemented later by the Metro Cebu Development Project or MCDP. The MCDP was established by the Regional Development Council (RDC) to carry out its objective of developing Metro Cebu as a catalyst of development in Central Visayas. Before the creation of MCDP, the RDC was undertaking the World Bank funded Central Visayas Regional Project or CVRP I (Rural) in the first half of the eighties. That was supposed to be followed by CVRP II (Urban) in 1985.

The change in administration along with the desire to limit the exposure of the government to foreign loans at high interest rates (World Bank charges are close to market rates) prompted the government to limit the urban projects to be undertaken in Metro Cebu only and to change the funding source from World Bank to OECF (Japan). The project was also renamed MCDP from CVRP II to conform to the limited coverage of the project that now excluded Tagbilaran City in Bohol and Dumaguete City in Negros Oriental.

Within Cebu City, the projects undertaken by MCDP I and II included the widening of the city’s major arterial roads and the installation of modern traffic signals (separately funded from Australia). It also covered the construction of bus terminal buildings (north and south), public markets, (Mandaue and Talisay) and the landfill in Inayawan. The on-going South Reclamation Project and Coastal Highway implemented separately by the city government and the Department of Public Works and Highways (DPWH), respectively, were originally part of MCDP III. Still in blueprint is the construction of the city’s circumferential road and other local road projects including the proposed Mass Transport System Project.

Presently, the planning for Cebu City and adjacent local government units has been anchored on the city and regional development planning that started from the regional framework planning of the national government in 1976. The strategy has been centered on the economy such that the City Government has
always been concerned on traffic congestion and its negative impacts on economic activities of the city and adjacent local government units in Metro Cebu.

In 2004, the Japan Bank for International Cooperation (JBIC) initiated the “Comprehensive Impact Study for Metro Cebu Development” project conducted by Global Group 21 Inc. for the various yen-loan projects in Metro Cebu since the 1970s which totaled over 100 billion yen. The study summarized the development planning process for Metro Cebu into three development cycles:

- First cycle (1978-1986) which covered the period of the physical development planning of regional growth centers;
- Second cycle (1987-2003) which promoted regional urban development for sustainable growth; and
- Third cycle (2004 and beyond) which envisions the dispersion of growth away from Metro Cebu.

Transport infrastructure projects that followed the first cycle like the MCDP were based on plans and recommendations of the Metro Cebu Land Use and Transport Study (MCLUTS) in 1981.

A metropolitan development plan proposed in MCLUTS was manifested in the City’s Comprehensive Land Use Plan (2000-2010). As part of its environmental protection and sustainable development strategy, it advocated for dispersing the development from the inner city to development zones in other urban areas of the city and strict implementation of the Clean Air Act. Its economic development strategy is to improve the traffic management system aside from the expansion of the road network and road capacity. The City is also conscious of its air pollution problem which it attributed mostly to slow-moving motor vehicles.

Specific Programs and Initiatives

Metropolitan Planning and Development

Metro Cebu Land Use and Transport Study (MCLUTS), 1978-1981. Planning for Metro Cebu started as early as the middle of 1970s when the Framework Plan of Cebu City was developed in 1976. The Comprehensive Impact Study for Metro Cebu Development (JBIC, 2004) identified three cycles of development planning process for Metro Cebu. In the first cycle (1978-1986), Central Visayas Regional Development Plan (1978-1982) and the Metro Cebu Land Use and Transport Study (1978-1981) were carried out. During this period, the Mactan Economic Zone (1979) was established along with port development projects and building of power plants.

The MCLUTS was conducted in 1978 by the then Ministry of Public Works, Transportation and Communications (MPWTC) with technical assistance from the Government of Australia. It was the first comprehensive planning for transport and land use of the City. There were four plans for the Metro Cebu based on the analysis, forecasting, and evaluation process with 2000 as target year of completion. These are:

- Plan 1: Concentrated, Without Reclamation
- Plan 2: Concentrated, With Mainland Reclamation
- Plan 3: Linear Dispersed, With Mainland Reclamation
- Plan 4: Mactan Expansion, With Mainland and Mactan Reclamation

Plan 2 was adopted by the Metro Cebu Council. It recommended the radial-circumferential road network and new traffic signalization system. Also, short to medium term recommendations on public
transportation were provided, making the CBD as the most accessible and the center of commercial and educational activities. The main recommendations prepared were as follows:

- lifting the ban on the issuance of franchises for buses and jeepneys
- stopping of the issuance of operating permits for new tricycles
- phasing out of the operation of PU which was a modified taxi without meter
- prohibiting the entry of tartanillas into the CBD during peak periods

Metro Cebu Development Project (MCDP) 1992-present. Among the projects implemented after MCLUTS is the MCDP. MCDP was initially conceptualized as the urban component of the Central Visayas Regional Project (CVRP) which was created under Executive Order No. 907, series of 1983. The project’s main objective is to accelerate the economic growth in Metro Cebu by providing an additional area for industrial and export processing use and to assist local governments of Metro Cebu in coping with rapid urban and population growth and in enhancing their potential for further economic development by providing a direct, uninterrupted access to its commuters. It has 3 phases with the following durations:

- MCDP 1, 1992-1995
- MCDP 2, 1994-1998
- MCDP 3, 2004-present

MCDP 1 has the following project components:

- Metro Cebu Road Improvement (1995) – construction/improvement of 13.298 km. of 15 arterial roads (north-south central axis)
- Traffic Control System (1995) – improvement of traffic management system (procurement of traffic signals, provision of street signs and road marking)
- Cebu South Bus Terminal (CSBT) (1992) – construction of terminal

MCDP 2 has the following project components:

- Metro Cebu Road Improvement (1999) – construction/improvement of other local and national roads (north-south central axis)
- Mandaue Coastal Road (Causeway) (2004) – construction of bypass road
- Cebu North Bus Terminal (1994) – construction of terminal

MCDP 3 is composed of the Cebu South Reclamation and Cebu South Coastal Road (11.66 km from Talisay City to Cebu City) which are currently under construction.

**Traffic Management Institutions**

Cebu City Traffic Operations Management (CiTOM), 1987. City Ordinance No. 1264 was enacted on October 19, 1987 creating the Cebu City Traffic Management Coordination Committee. It was initially composed of a Chairman and Vice-chairman who were appointed by the Mayor of Cebu City. The members of the committee were composed of eight appointees of the City Mayor from the public and private sectors. The functions of the committee ranged from the coordination and monitoring
of traffic management plans, review of traffic engineering and management schemes and routing of public transport. City Ordinance No. 1264 was amended through City Ordinance No. 1451 on May 17, 1993. This increased the membership to 14 with ten sitting as ex-officio members. The most important goal of the CITOM Board is to make Cebu City an orderly urban locality with a comprehensive, measurable and sustainable Traffic Management Plan coordinated by the united efforts of all agencies concerned (CITOM P 2007). Another objective of CITOM is the provision of infrastructure support to maintain safe and efficient road network, traffic education, traffic law enforcement and local legislative support in ordinance development.

Currently, CITOM has a workforce of 536 composed of the following:

- Traffic Aides - 306
- Parking Aides - 122
- Support (Technical & Admin) - 108

It currently has 10 sections including special units with tasks of enforcing special traffic ordinances such as the Anti-Jaywalking Task Force, Wheel Clamping, Anti-Smoke Belching, Towing, Motorcycles for Hire (MCH), Weighing, Overnight Parking, Night Patrol and Non-motorized units.

**Adaptive Traffic Control System, 1993.** The Metro Cebu Traffic Engineering and Management (MCTeam) Project was established in 1989 wherein the City Government entered a memorandum of agreement with the DPWH in the installation of a computerized traffic signal system. Phase I included 68 intersections (65 in Cebu City and 3 in Mandaue City) and operation with the Traffic Control Center commenced in 1993. The traffic signal control system was installed by AWA Traffic and Information System of Australia and made use of the system called SCATS (Sydney Coordinated Adaptive Traffic System) which was the first of its kind in the country. The area-wide traffic control system is adaptive. Traffic signal timings dynamically respond to detected traffic volumes. Phase II (Metro Cebu Traffic Signal System Expansion Project) of the project acquired new traffic signals and signalized several intersections in new economic growth centers. Presently, there are 78 signalized intersections connected to SCATS within Cebu City.

**Traffic Enforcement.** Strict enforcement in loading and unloading bays of public transport due to the strong will of the Mayor to enforce traffic rules in the early 1990s. At first, this was enforced on drivers but later it was also implemented among passengers.

**Public Transport Improvement and Promotion**

**Establishment of Public Transport Terminals.** There were 2 public transport terminals constructed under the MCDP:

- Cebu South Bus Terminal (CSBT), 1992 (MCDP 1)
- Cebu North Bus Terminal, 1994 (MCDP 2)

Cebu South Bus Terminal (CSBT) consists of a terminal/parking area and a building with a total area of 1.2 hectares. There are 40 loading bays for buses in the terminal/parking area. In addition, the middle ground space, which can accommodate approximately 50 vehicles, is being utilized as a waiting area. There are, on average, 15,000 passengers commuting daily between the city and provinces and 335 trips to and from the terminal.

**Ordinance on Designation of Travel Lines for Public Transport Vehicles.** The City has been revising the routes of jeepneys (PUJ) in coordination with its traffic management schemes through enactment
of local ordinances on “travel lines” for public utility vehicles traveling in Cebu City. Recently, Lapu-lapu City has also enacted an ordinance (C.O. 327-2006) designating travel lines for PUJ and Filecabs.

**Mass Transit Initiatives**

The Cebu City Government has been contemplating on studying the viability of two BRT corridors to ease traffic congestion in the main north-south arterials (UP-NCTS, 2007):

- Cebu City BRT – Talamban-Central Business District
- Coastal North-South BRT – Minglanilla-Mactan Export Processing Zone

**Environmental Protection**

The proposed Cebu City BRT is within Cebu City while the Coastal North-South BRT traverses the 4 cities (Talisay, Cebu, Mandaue and Lapu-lapu) and 1 municipality (Minglanilla). In June 2007, the U.P. National Center for Transportation Studies has completed a pre-feasibility study for BRT for Metro Manila for USAID-ECAP.

**Heritage Conservation in Infrastructure Projects.** Segment 3 of the Cebu South Coastal Road Project starts at the Segment 2 - Causeway section and ends at the McArthur Boulevard (S. Osmeña Boulevard, Cebu City). Prior to the actual subway design, the subway component has three alternatives, namely: (1) widening of M.J. Cuenco Avenue along Plaza Independencia site; (2) elevated highway structure across the Plaza Independencia; and (3) subway/sub-surface alignment across the Plaza Independencia. Long-term traffic alleviation is only limited to second and third alternative (elevated and sub-surface alignment, respectively). The decision-makers have decided in favor of sub-surface alignment. It is clear that visual amenity and cultural heritage preservation were given great weight in the project evaluation (Parumog et al. 2003). Fort San Pedro is one of the oldest fortresses in the Philippines while the Plaza Independencia has been the center of social and cultural activities of the region.

**Anti-Smoke Belching (ASB) Ordinance.** After the Clean Air Action Plan was passed in Cebu City Council in February 2006, the City Ordinance 2111 - Cebu City's Vehicle Emissions Control Ordinance was enacted in March 2007. The recent activities of the ASB program are supported by the United States Agency for International Development's Energy and Clean Air Project (USAID-ECAP) where Cebu City is one of the four cities supported by the project. The ASB program of Cebu City has seven strategies: 1) establish baseline data of air quality; 2) broaden stakeholder participation in enforcement; 3) strengthen clean air legislation; 4) lead by example; 5) raise public awareness and participation; 6) expand sources of funding; and, 7) improve compliance to clean air standards by motor vehicle owners and operators. ECAP also distributed safety gears to CITOM which is in charge of enforcement of the ASB ordinance in July 2006 and piloted coco-methyl ester (CME) biodiesel in public transport vehicles in March 2007. Public partnership of the city government, academe, civil society and business sector on clean air has also been active. In the establishment of baseline air quality especially along roadside areas to monitor the impacts of the ordinance, the City has tied up with U.P. College Cebu with portable PM monitoring equipment lent by the U.P. NCTS.
The City is currently drafting the implementing rules and regulations for City Ordinance 2111. Some of the features of the Ordinance include the following:

- mandatory smoke testing of tricycles by CITOM prior to registration or grant of renewal of registration;
- offenders under this ordinance shall undergo a seminar on environmental sustainability including climate change and pollution control management; and
- funds collected from fines and penalties shall go to the Local Clean Air Fund to finance activities related to the Ordinance.

**Successes Achieved**

MCLUTS has shown that a long-term transportation plan integrated with land-use and development plans is essential for a metropolitan area such as Metro Cebu. Most of the transportation projects in the MCDP followed the proposals in various plan scenarios of MCLUTS with some plan deviations and project delays. With the presence of a long-term metropolitan transport plan, it helped Cebu City to implement various projects such as the MCDP which was started to be planned in 1981 after MCLUTS. It has minimized planning efforts and cost of project development in the latter years. Metro Cebu was able to implement MCDP in Cebu City, initially consisting of MCDP Phase 1 (2.027 billion yen loan) in 1995 and MCDP Phase 2 (3.652 billion yen loan for roads and north bus terminal) in 1998. The on-going MCDP Phase 3, which consists of Cebu South Coastal Road (24.521 billion yen loan) and Cebu South Reclamation Project or SRP (6.420 billion yen loan), is a major feature of Plan 2 of MCLUTS in line with mainland reclamation.

The traffic signal control system recommended in Plan 2 of MCLUTS was implemented with the installation of the SCATS in 1993. CITOM's 18 personnel were trained on the operation and maintenance of the SCATS (JBI, 2004). It continued to operate since then as the computerized traffic signal system for Metro Cebu. In contrast, its installation in Metro Manila in 1995 was not completed on time in 2000 due to delays and disagreements.

The establishment of CITOM in 1987 for the enforcement of traffic rules and regulations evolved into an important institution on traffic management and traffic engineering as well as some of the critical aspects of transportation such as public transport. It acquired experience from the field and established capacity in conducting traffic data collection needed in traffic engineering and management. CITOM was cited in a JBI evaluation study in 2004 as a leader in traffic management. Its achievement is being duplicated, in one way or another, by other cities across the country. The strict enforcement policy that trained the people to follow traffic rules in public transport stops and the use of pedestrian walkways such as overpasses could not have been possible without the assistance of CITOM.

The operation of the two public transport terminals in 1992 and 1994 helped ease traffic congestion due to limiting buses accessing the road to the center of the city. This also helped establish the hierarchy of transport modes. Complementing this is the City Ordinance 2000 amending the travel lines of public transport vehicles enforced through CITOM that strengthened local government involvement in public transport management. A similar ordinance on travel lines of jeepneys and Filcabs were enacted in Lapu-lapu City in 2006.

The decision for sub-surface alignment in Plaza Independencia of Segment 3 of the Cebu South Coastal Road Project showed that heritage conservation was given more priority. This is in line with the development vision of the city to become a cultural and heritage center. In 2005, the Cebu Provincial Government together with church and business groups initiated public-private cooperation on cultural heritage preservation.
The enactment of the Vehicle Emissions Control Ordinance (C.O. 2111) in 2007 institutionalized anti-smoke belching activities that began in 1995 by the LTO and CITOM. Civil society groups are present in Cebu and are strong advocates of clean air and the City Government is now proactive. The City has shown its leadership by example by using biodiesel in its vehicle fleet and passing the emission tests. In addition, the City Council has passed a resolution adopting the Cebu City Clean Air Action Plan which can be a model for other cities and towns in Metro Cebu to emulate. According to ECAP, initial linkages with the transport sector in Cebu have been established. The transport sector in Cebu is organized and cooperative to the local government.

Lessons Learned

The Metro Cebu Development Authority (MCDA), the metropolitan body to govern Metro Cebu proposed in MCLUTS, was not realized. In revisiting the MCLUTS, Villarette and Cal (2007) proposed several recommendations. There is a need for an updated long-term structure plan for metropolitan areas since MCLUTS was up to year 2000 only. There is also a need for a metropolitan authority to continuously update plans and implement projects. Transportation and other infrastructure projects have been implemented by the MCDP Committee and MCDP Project Management Office. In addition, the structure plan has to be flexible, progressive and owned by stakeholders.

It can also be concluded that as in other urban areas, the road capacity widening and road network expansion are not the ultimate solution to traffic and transport problems. Even after the road network expansion/improvement in MCDP, Metro Cebu continued to experience traffic congestion. The adaptive traffic control signal system can be utilized with other traffic management and engineering measures as well as the improvement of public transport and non-motorized transport systems and travel demand management measures to reduce traffic congestion. With capacity for traffic data collection and the existence of SCATS that can continuously collect data through detectors, CITOM could utilize its database of traffic in the management and control of traffic. It could also extend its expertise to other local government units in Metro Cebu.

In public transport management, there is a need to reconcile the need for greater participation of the local government in land transport franchising especially for intra-city and inter-city public transport vehicles. Aside from the regulation of public transport, the local government also has the mandate for local traffic management which will affect public transport routes. This is shown in Cebu City where an ordinance amending the travel lines for public transport vehicles has been in effect.

Cultural heritage preservation as shown in the case of the sub-surface alignment of Segment 3 of the Cebu South Coastal Road Project can be sustained in other transport infrastructure projects by increasing public awareness of the cultural heritage including architectural heritage and its inventory, which has been conducted by the Ramon Aboitiz Foundation (RAF) in the province of Cebu. Parumog et. al. (2003) recommended the valuation of cultural heritage sites preservation as one of the strategies for roads and other infrastructure developments. Since the identification of the cultural heritage sites at the local level is an essential task before the benefits or disbenefits of a site can be listed, it is imperative that sites be identified and protected through local ordinances such as zoning. Since damages to cultural heritage is an irreversible environmental impact, its appropriate protection of such cultural heritage must be supported by various related policies on cultural heritage protection specifically recommending tools for valuing cultural heritage resources.

The cooperation of City Government, City Council with civil society groups in the enactment of the vehicle emissions ordinance is a critical factor in enforcing environmental standards such as the Clean Air Act. This multi-stakeholder initiative has also been demonstrated in Metro Manila during the first few years of implementation of the Clean Air Act. However, there is still a need for continuous involvement of civil society in monitoring and ensuring the compliance of vehicles to emission standards. The linkage with
public transport sector has to be sustained and support has to be extended for continuous compliance. There is lack of ambient air quality monitoring equipment to measure various pollutants. Technical, manpower and adjudication problems experienced earlier by Metro Manila local governments in roadside apprehension of vehicles violating emission standards have to be understood and prevented in this new effort in Metro Cebu.

Future Directions

According to the Cebu City Planning and Development Office (Cebu CPDO, 2007), transport development strategies of Cebu City consists of clean air and energy efficiency, street vacations, underground utility ducts, guidelines on transport plans, barrier-free design and a high-occupancy jeepney/bus system such as BRT. The Cebu CPDO’s land use strategy proposes the adoption of the Dispersed-Concentrated Approach which will create three development zones of the city – central, north and south. Two new growth centers ringed with new housing settlement areas will be developed in the city’s northwest area (Talamban) and southeast area (Pardo).

The direction of transport network development has been changed from single primary corridor to 3-corridor system in line with the present direction of the MCDP (Villarete and Cai, 2007). The first two corridors are the existing north-south arterial road (public transport corridor) passing through Cebu City and the partially opened Cebu South Coastal Road (industrial transport corridor). The third corridor is the Cebu City Circumferential Road with alignment that will start in Tisa traversing at the interior-mountain side of Cebu City and terminates in Sunny Hills subdivision in Banilad in Mandaue.

With respect to the introduction of an alternative mass transit system, Cebu City recently showed its interest in the introduction of BRT in two corridors with support from the private sector. However, the Department of Transportation and Communication (DOTC) already closed a deal with AMA Group of Holdings Corp. for the construction of a 71-kilometer, three-phased LRT system amounting to US$1 billion that would run through Metro Cebu from Carcar in the south to Danao in the north. A bill was filed in Congress in 2007 for a similar LRT system called Metro Cebu Mass Transportation System (MCMTS) that involves the construction of a modern railway network from Talisay City to the Municipality of Consolacion for the first phase, and from Talisay to Carcar City and Consolacion to Danao City for the second phase. There is a need to provide guidance from DOTC through its Road Transport Planning Division and Rail Transport Planning Division to local governments on the promotion of BRT as an alternative mass transit system which is lower in cost. This will also have an impact on public transport management since the BRT system consists of buses running on medians of roads which is still technically road-based transport.

With respect to clean air, a local government-business sector-academe forum, collaborative activities, and roundtable discussions shall be held to define roles on clean air efforts, acquisition and installation of air quality monitoring equipment, activation of the Metro Cebu Airshed Governing Board and training module on preventive maintenance and responsible driving shall be developed for transport operators, owners and drivers for use by CITOM (USAID-ECAP, 2007).

References


(Footnotes)

1 Based on the 1979 Metro Cebu Land Use and Transport Study (MCLUTS) report and the 1992 Home Interview Supplemental Survey conducted by the Metro Cebu Development Project (MCDP) for Phase 3.