Introduction
The Facilities Plan for Brownsville addresses Emergency Services (Police, Fire, and EMS) and Schools. Provision of emergency services and schools are population driven because they are sized and distributed to conform to a standard of performance measured by the people served (e.g. response time and classrooms per capita). This analysis is therefore based on the current population of Brownsville (approximately 172,000) and the projected population of 364,000 for the year 2035. Adequate provision of population driven facilities is a key feature influencing how a City is viewed as a potential host for relocating industry and increasing employment opportunities. Also, in-migrating population (coming from other population centers) will likely bring a higher expectation of service than current residents demand. Therefore, Brownsville must view its provision of emergency services and schools in the light of national standards so that Brownsville’s level of service is consistent with other cities across the country.

A city’s services must be uniformly allocated to all its residents, and a city’s ability to respond to emergencies must be equally available to all residents. The following description of Police, Fire/EMS, and Schools presents a Plan to provide the desired equal availability and uniform allocation in conformance with national standards. This will make Brownsville nationally competitive with other cities when it comes to the provision of emergency services and schools. Finally, provision of these services is described with respect to the 24 modules presented in the Future Land Use Plan for Brownsville. Coordination between Plans is critical to increasing the City’s ability to implement both Plans effectively and efficiently.
Police and Fire/EMS Service
Recent events ranging from natural disasters to violent events have illustrated the importance of a city’s police and fire protection. The standards by which these ordinary protections are provided influence the perception of a city’s quality of life and the common realities of individual home and business owners. These common realities include insurance availability and rates, as well as marketability/rentability of homes and rental units. In addition, initiatives recommended throughout this Comprehensive Plan can be negatively affected if uncertainty about emergency services becomes established in the market place. These pragmatic associations with the provision of emergency services make them an important part of any economic development strategy. The Fire/EMS and Police Plans (Figure 1 and 2) illustrate the distribution of these facilities for the projected 2035 population and are more specifically described below.

Fire/EMS Service. Fire/EMS locations are based on response time as a function of distance from any potential emergency call. The need to get large equipment to any emergency within a given time and the need to house and maintain large equipment in somewhat centralized stations means that Fire/EMS stations must be decentralized and moved closer to the points of service (served within a specified time frame). Ideally, Fire/EMS stations are located based on response time within a service area, with a standard goal of a five minute or less response. As a basic planning tool, a 1.5 mile radius from the station is used, although this may need to be adjusted in rural areas with natural and man made barriers, as well as limited roadway access. In these cases, the response bubble area should be calculated based on roadways and barriers, rather than a simple radius. When looking at general locations, the 1.5 mile radius tool is helpful and was used for this analysis. Having a good distribution of Fire/EMS stations is a large part of the evaluation for the International Organization for Standardization (ISO) rating for city. This rating directly affects insurance costs for homeowners and businesses.

The nature of Fire/EMS Department calls illustrates the reason that response time is such a critical factor in Fire/EMS Facility planning. According to the Fire Protection Association, the majority (58%) of Fire Department calls concern medical aid, as follows:

- Medical aid 58.0%
- Fires 9.4%
- False Alarms 10.4%
- Mutual Aid 3.8%
- Other 13.5%
- Other hazardous conditions 3.0%

Staffing for a Fire/EMS Department should be established with a detailed study that takes into consideration stations and the specific apparatus at each station. As a general comparison of staffing levels, the National Fire Protection Association (NFPA) has established a median rate of 1.46 fire fighters per 1,000 people for cities of 100,000 to 250,000. The ratio for Brownsville is currently 0.73 firefighters per 1,000 people, based on the current total of 126 firefighters. In order to meet the median rate with its current population, Brownsville needs to double its number of firefighters, to a total of 252 firefighters. With the projected population of 364,000 in the year 2035, in order to meet the median rate, Brownsville will require a total of 532 firefighters (Figure 1).

The NFPA also makes recommendations concerning the number of fire/EMS stations a city should have, based on population. The Fire/EMS

<table>
<thead>
<tr>
<th>Standard Per 1000 Residents</th>
<th>Current Number</th>
<th>Current Calculated Need</th>
<th>2035 Calculated Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighters</td>
<td>1.46</td>
<td>126</td>
<td>251.1</td>
</tr>
<tr>
<td>Fire/EMS Stations</td>
<td>0.071</td>
<td>9</td>
<td>12.2</td>
</tr>
</tbody>
</table>

Figure 1. Brownsville Current and Future Fire/EMS Requirements.
EMS Plan graphic (Figure 2) shows service areas distributed over the future 2035 City of Brownsville. The red circles indicate existing Fire/EMS stations (a total of 9) and reveal that higher density and older areas of the City are well covered. In many of these areas, more than one station is able to respond to an emergency within the standard response time, as indicated by the overlap of red circles. Additionally, there are two stations, shown in green, that are controlled by agencies other than the City of Brownsville. Orange circles indicate proposed staffed stations (a total of 7) in lower density areas outside the historic city center and in areas of directed growth under the Future Land Use Plan. More locations will need to be identified to meet calculated needs for the projected 2035 population (Figure 1).

There are some areas in Brownsville that will not fall within the response time distance from a station, but the low densities and large amount of water management and reserve land identified in the Future Land Use Plan will not require high levels of emergency service provision. The need for stations in these areas must be addressed as development occurs in the future. Existing stations are primarily located in the Downtown Node, Core Districts, and in major Corridor modules. As development extends to the Emerging Districts, the Employment Hub, and the Regional Loop Roadway, emergency stations will be required in these areas and the locations of new stations should be matched to growth patterns.

Figure 2. Brownsville Fire/EMS Plan Graphic.
Police Service. The staffing level standards for a police department should take into consideration such factors as response time, crime rate statistics, clearance rates, and specific programs. A generalized analysis of staffing levels uses the sworn ratio, which is the number of sworn (non-civilian) officers per 1000 residents. Using the current staffing level in Brownsville of 237 sworn officers to a population of 172,000, the calculated sworn ratio is 1.37. The Brownsville Police Department is actually authorized to staff an additional 8 officers, which would bring the ratio to 1.42. According to the FBI, the average for cities that serve this population size in the Southwest is 1.90 officers per 1000 people. Brownsville would need to hire an additional 90 sworn officers to meet the average standard ratio with the current population (Figure 3). The City should be prepared to have 656 sworn officers to meet the needs of the 2035 projected population.

The FBI also maintains averages for the total number of law enforcement employees (sworn and civilian officers) in a police department. Brownsville currently has a total of 317 employees, which is 113 short of the average (Figure 3). Maintaining the standard ratio of sworn officers and total employees will give greater assurance that Brownsville is protected at a level that:

- Does not expose the homes and businesses of Brownsville to disproportionately high insurance costs.
- Enhances the view of Brownsville to business and home buyers seeking to relocate to the City.
- Strengthens existing older neighborhoods and provides greater assurance of security.

Police facility locations are less geographically specific than fire/EMS stations, as police officers are not typically dispatched from the station but from their patrol districts. The trend for most police departments is to have one central facility where all personnel are based. Often departments will have “community policing” stations with staff for community outreach and space for patrol use in the district. This is the model that Brownsville has followed with the central station Downtown.

<table>
<thead>
<tr>
<th></th>
<th>Standard Per 1000 Residents</th>
<th>Current Number</th>
<th>Current Calculated Need</th>
<th>2035 Calculated Need</th>
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</thead>
<tbody>
<tr>
<td>Sworn Officers</td>
<td>1.90</td>
<td>237</td>
<td>326.8</td>
<td>691.6</td>
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<tr>
<td>Total Employees</td>
<td>2.50</td>
<td>317</td>
<td>430.0</td>
<td>910.0</td>
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</table>

Figure 3. Brownsville Current and Future Police Staffing Requirements.
and two community network centers (as shown in Figure 4). This trend should continue, with care taken to locate community police centers in Node modules, where convenient access is available to residential Districts and busy Corridor modules. A specific study of the police space needs should be completed to understand the future needs of the department and how the current facilities will respond. Several important issues typically include space for staff, jail/holding requirements, and parking needs.

Figure 4. Brownsville Police Plan Graphic.
**Schools**

Schools are the responsibility of a city’s school board but the city government often plays a significant role in attaining school sites as the city develops. In addition, schools (including those at the university level) play an important role in preparing the future population as a skilled work force. This can help attract higher wage jobs to the city, and other similar goals of the Comprehensive Plan can be met. Therefore, it is important that Brownsville’s Comprehensive Plan identify the likely number of schools that will be needed for the future population.

There are general planning benchmarks, based on population, that are used to predict the number of schools a community requires, although these standards can be modified by unique characteristics such as demographics, geographic barriers, and development rates. Figure 5 shows the standard ratios of school per person and current school numbers compared to future requirements. Several new schools have been proposed for construction in Brownsville, and it appears that the City has kept up with current school needs and is planning for the near future needs. The only low number is at the high school level, and requirements for these schools can vary depending on their distribution and the programs offered.

The distribution of schools is shown in Figure 6, and it is clear that schools are clustered in areas of current development. New schools will be required in many of the predominantly residential land use modules, from within the Core Districts, as a response to infill and redevelopment residential projects, to the Emerging Districts, and eventually to the Reserve Future City District to meet new residential development demands.

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**REQUIREMENTS FOR SCHOOL SITES**

The requirements for school sites shall be as follows:

1. The size and shape of the site must be able to house a new school and associated outdoor facilities.
2. The minimum Size of a School Site shall be as follows:
   - Elementary school - 12 acres
   - Elementary school adjacent to active park - 9 acres
   - Middle school - 25 acres
   - Middle school adjacent to active park - 20 acres
   - High School - 90 acres
3. The shape of the site should be essentially rectangular and configured so as to allow the full utilization of the site for school buildings and related educational, play, recreational, and athletic facilities.

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**SITE CRITERIA FOR SCHOOL SITES**

The site criteria for schools shall be as follows:

1. The site will be situated in a community or development to accommodate the greatest number of students while, at the same time, being located in such a fashion to minimize overall peripheral costs. The new site will be ideally placed on a collector road (not an arterial road) to accommodate both the personal and public transportation needs of the school.
2. The school site will be centrally located geographically within the designated Catchment Area in order to place it in the shortest walking distance for the majority of students.
3. The site must have adequate frontage such that appropriate traffic designs and vehicular movements can be controlled. A frontage of

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<table>
<thead>
<tr>
<th>Type of School</th>
<th>School/Capita</th>
<th>Current Number of Schools</th>
<th>Current Calculated Need</th>
<th>Proposed Future Number of Schools</th>
<th>2035 Calculated Need</th>
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<tr>
<td>Elementary</td>
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<td>34</td>
<td>34.4</td>
<td>37</td>
<td>72.8</td>
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<tr>
<td>Middle</td>
<td>16,000</td>
<td>11</td>
<td>10.8</td>
<td>12</td>
<td>22.8</td>
</tr>
<tr>
<td>High</td>
<td>24,000</td>
<td>5</td>
<td>7.2</td>
<td>6</td>
<td>15.2</td>
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</table>

Figure 5. Brownsville Current and Future School Requirements.
not less than 450 feet for elementary schools, 660 feet for middle schools, and 950 for high schools is acceptable.

4. The site is to be situated, where possible, to complement other public facilities being provided, particularly municipal parks and other school sites, in order to achieve a “campus affect” and also provide coordinated services and avoid duplication of services. The School Board will also consider locating future new sites to complement other public facilities, such as, libraries, arenas, etc.

5. Municipal services such as water, sanitary and storm sewer, natural gas and hydro must be available to supply the construction of the proposed facility and its intended use.

6. The site is to be a safe distance from physical and environmental hazards of all kinds.

7. The site must exclude archaeologically or historic significant lands.

8. The site is to be unencumbered by natural features, such as tree stands or a gradient of more than 2%.

9. The site is to be free from dangers to student safety, such as detention ponds and incompatible land uses including industrial land use types.

10. The site is to be free from excessive noise, such as that created by traffic on railway lines, arterial thoroughfares, and airports.

11. The site is to be free from noxious gases and fumes.

12. The site should not be within 1,500 feet of a high voltage hydro powerline right of way or a natural gas station.

13. The site should be easily drained and free from 100 year floodplain areas and also from underground water problems and other underground or soil conditions which would present construction difficulties.

14. Schools will cooperate with the municipality in an attempt to locate a school site adjacent to municipal parkland.