

2010 Comprehensive Plan Background Data

Prepared by the City of Frederick's
Department of Planning and Department of Engineering
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Introduction

With the passage of House Bill 1141, the 2006 General Assembly added new requirements for municipal comprehensive plans. HB 1141 added two additional elements that need to be considered when adopting a comprehensive plan. The Water Resource Element (WRE) and the Municipal Growth Element (MGE) were added to evaluate the effects of proposed land use on services and facilities.

Review Period

The City of Frederick routed a draft copy of the comprehensive plan to County Planning as well as Commissioner Gardner for review on 8/20/09 as required. The City received comments from Commissioner Gardner on 10/9/09.

The City of Frederick routed a draft copy of the comprehensive plan to Maryland Department of Planning (MDP) for review on 8/20/09 as required. The City received comments from MDP on 10/14/09

HB 1141 Requirements

Section (e) (6) (i) require the Mayor & Board of Aldermen and the Board of County Commissioners to meet and confer.

Section (e) (6) (i) Within 30 days following the close of the comment period for the county or counties under paragraph (5) of this subsection, a county and a municipal corporation shall meet and confer regarding the Municipal Growth Element.

The Mayor and Board of Aldermen and the Board of County Commissioners met on Tuesday, April 13, 2010 at Winchester Hall to discuss the MGE. A second meeting will be held to discuss the financial aspect of the City's comprehensive plan on Monday, June 7, 2010 at Winchester Hall.

In HB 1141, many items have been added to help further explain the requirements of the two new elements. In Section (x) (6) of the legislation it relates to the financial aspect of growth to the MGE.

Section (x) (6) anticipated financing mechanisms to support necessary public services and infrastructure.

This document is the background data that was used to developed the 2010 Comprehensive Plan for the City of Frederick. It is intended to be a guide on the City's anticipated growth over the next 20 years and the sources of funding associated with each service.

Residential Pipeline

Expected Residential Development in Tier 1 & 2

5,200	Traditional Pipeline with some form of approval
1,500	Vacant Lots within the City of Frederick
<u>2,028</u>	<u>2009 Annexations</u>

8,728 Total Dwelling Units

<u>2,300</u>	<u>Areas in Tier 2 and not within the City</u>
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11,028 Total Dwelling Units

Projected Build Out

15.7 years at 700 Dwelling Units per year
22.1 years at 500 Dwelling Units per year
 36.8 years at 300 Dwelling Units per year

The main assumption of this appendix is that City of Frederick will continue to grow at an average of 500 dwelling units per year. The chart below shows how the City has issued building permits since 1980. The range of building permits issued range from a low of 150 to high of 1,200 dwelling units.

Year	Dwelling Units	Population
1	500	1,205
2	1,000	2,410
3	1,500	3,615
4	2,000	4,820
5	2,500	6,025
6	3,000	7,230
7	3,500	8,435
8	4,000	9,640
9	4,500	10,845
10	5,000	12,050
11	5,500	13,255
12	6,000	14,460
13	6,500	15,665
14	7,000	16,870
15	7,500	18,075
16	8,000	19,280
17	8,500	20,485
18	9,000	21,690
19	9,500	22,895
20	10,000	24,100

Annual Average	Units
1980-1985	521
1986-1990	589
1991-1995	492
1996 -2000	660
2001-2005	490
2006-2009	245 (4yr average)

Estimated Population

The current population for the City of Frederick is estimated at 62,384 persons, An additional 24,100 persons will give the City of Frederick an estimated population of 86,484 persons.

Balance Supply

The City of Frederick has a balanced supply of housing. There are approximately 5,000 units that have approval and 5,000 units that have not started the approval process.

- 10 year supply with some vested rights in the approval process.
- 10 year supply without any approval
 - 5,000 units are expected to be 7-10 years away from first building permit
 - Assuming water and sewer availability

When calculating the services needed and projected revenues, staff used a 20 year horizon. A 20 year horizon at 500 dwelling units per year will yield 10,000 dwelling units. This is 1,028 dwelling units short of what staff believes is in the pipeline, but this study represents a long term view of the potential impacts of development within the City.

The pipeline is a statistical study not taking into account the City's Adequate Public Facilities Ordinance (APFO), phasing of developments or annexation requirements. These factors could extend the time needed to build the projected 10,000 units.

Non Residential Pipeline

The City of Frederick anticipates that there is a potential for between 8,000,000 and 9,000,000 square feet of non residential in Tier 1 & 2.

9,000,000 square feet of non residential

450,000 square feet per year over a 20 year horizon

18,000 employees (estimated at one person per 500 square feet)

Examples of Non Residential Developments

Site	Square Feet
Fredericktown Mall	440,000
NCI –Phase I & II	430,000
State Farm	380,000
Clemson Corner	350,000
7 th St Shopping Center	230,000
Wal-Mart (Route 26)	136,000

The City of Frederick Department of Economic Development undertook a citywide analysis of the market for office, industrial, and flex / R&D space. This report was completed in May 2008. This report showed that there is a potential annual demand of 440,000 square feet for office, industrial, and flex / R&D space.

Parks

The amount of acreage needed is based on 10 acres per 1,000 residences. Using 500 dwelling units as a base, those units would generate 1,200 residences which would equate to 12.1 acres of parkland.

The City of Frederick has a parks facilities impact fee

Year	Parks Acres Needed	City's Parks Facilities Impact Fee
1	11.5	\$284,000
2	23.0	\$568,000
3	34.5	\$852,000
4	46.0	\$1,136,000
5	57.5	\$1,420,000
6	69.0	\$1,704,000
7	80.5	\$1,988,000
8	92.0	\$2,272,000
9	103.5	\$2,556,000
10	115.0	\$2,840,000
11	126.5	\$3,124,000
12	138.0	\$3,408,000
13	149.5	\$3,692,000
14	161.0	\$3,976,000
15	172.5	\$4,260,000
16	184.0	\$4,544,000
17	195.5	\$4,828,000
18	207.0	\$5,112,000
19	218.5	\$5,396,000
20	230.0	\$5,680,000

This fee is used to improve new vacant parks. The fee is not used for park maintenance and is based on \$568 per unit. This is assuming that all new dwelling units will be part of a HOA and will have a pool facility. If the new dwelling unit does not have a pool facility, the fee would be \$868.

The impact fee could increase to \$7,180,000 if half of the units have HOA pools and half the units did not.

Along with dedication of active parkland, the City of Frederick has historically acquired floodplain for continuation of the stream valley park system that was started in the 1978 Comprehensive Plan.

Much of the acquired floodplain is planted with afforestation and then paths are installed. It is an effective use of floodplain by increasing green area, protecting floodplain, increasing the urban forest canopy and creating recreational opportunities.

The City of Frederick acquires parkland land based on the number of units in a development as per the Land Management Code (LMC). Section 608 (b) (1) requires 1,000 square feet of parkland per new residential unit.

These projections for additional services and revenues are based upon the City of

Frederick issuing 500 dwelling permits per year. The City has not issued 500 dwelling units since 2005.

Roads

The City of Frederick has aggressively addressed the roads in the City by acquiring, designing, constructing links and making intersection improvements. As in the County, the vast majority of the roads are constructed by the developers as the development progresses through different phases.

Examples of this type of road construction include Whittier PND, which built the local, collector roads, as well as a section of Christopher's Crossing from the north end of Whittier to Rocky Springs.

The following projects the City has bonded in order to help complete the road network:

Monocacy Boulevard Central Section (includes the extension of Schifferstadt Blvd.)

Status: Under Construction
Cost: \$43,000,000

Christopher's Crossing – Sanner Farm

Status: Design / In-house design work underway
Cost: \$421,000 (ROW)

Christopher's Crossing – Kemp Lane (realignment of road)

Status: Discussion with Fort Detrick
Cost: \$0

Christopher's Crossing / US 15 Interchange

Status: Design Complete Fall 2012
Cost: \$4,000,000 (\$2,000,000 from both the City and the County)
Federal Appropriation Request was submitted for the entire cost of construction and right-of-way

Butterfly Lane Realignment

Status: Preliminary Design work underway
Cost: \$339,239 (ROW)

Thomas Johnson Drive & Oppossumtown Pike Intersection Improvements and Connection to US15 (Mott Ave Bridge Replacement)

Status: Design and Engineering are Underway
Cost: Cost share between City and SHA for construction and ROW (City obligation is estimated at \$3.5Million)

Yellow Spring at Tuscany Drive Intersection Improvements

Status: Project slotted for construction in 2013
Cost: \$1.5Million

Shookstown Road Improvements

Status: Construction has begun
Cost: \$1.1Million

Walter Martz Road Improvements

Status: Design to begin in 2012
Cost: \$850,000

The Mayor and Board of Aldermen adopted an Adequate Public Facilities Ordinance (APFO) on September 17, 2007 (Ordinance G-7-19) which includes a test for roads.

Schools

The projected enrollment in public schools is 3,480 students; there will be an expected need for two additional elementary schools, one middle school and 75% of a high school. These numbers are using existing pupil generation rates.

The impact fee collected is estimated at about \$90,000,000. This one time fee is intended to help facilitate school construction.

Maximum Capacity of Schools

Elementary 700 students
 Middle 900 students
 High 1,600 students

Year	Impact Fees	ES	MS	HS
1	\$4,524,164	82	40	52
2	\$9,048,328	164	80	104
3	\$13,572,492	246	120	156
4	\$18,096,656	328	160	208
5	\$22,620,820	410	200	260
6	\$27,144,984	492	240	312
7	\$31,669,148	574	280	364
8	\$36,193,312	656	320	416
9	\$40,717,476	738	360	468
10	\$45,241,640	820	400	520
11	\$49,765,804	902	440	572
12	\$54,289,968	984	480	624
13	\$58,814,132	1,066	520	676
14	\$63,338,296	1,148	560	728
15	\$67,862,460	1,230	600	780
16	\$72,386,624	1,312	640	832
17	\$76,910,788	1,394	680	884
18	\$81,434,952	1,476	720	936
19	\$85,959,116	1,558	760	988
20	\$90,483,280	1,640	800	1,040

Existing Sites within the City

Elementary School Sites

- Hargett \$1,480,444
- Tuscarora Creek Developer
- Dearbought Developer
- Crum Developer

Middle School Sites

- There is a possibility of using the existing Tuscarora Creek elementary school site with additional land from the Sanner Farm to create a middle school site.

High School Site

- There is a high school site shown on both the City and County’s comprehensive plans. This site has not been identified.

Estimated Costs For School Facilities:

Elementary \$28,000,000

Middle	\$38,000,000
High	\$75,000,000

The 2010 Frederick County Comprehensive Plan has the following school sites shown near the City of Frederick.

Elementary School Sites

- *Dearbought - along MD 26 on the northeast side of Frederick City.*
- *North Frederick City – near Christopher’s Crossing and Walter Martz Road around the northern portion of Frederick City.*
- *West Frederick City – Two (2) sites between I-70 and Butterfly Lane (on Hargett and Summers properties)*

Middle School Sites

- *North Frederick City – south of Christopher’s Crossing and Yellow Springs Road.*

High School Sites

- *North Frederick City – near the intersection of Poole Jones Road and Christopher’s Crossing.*

These projections for additional services and revenues are based upon the City of Frederick issuing 500 dwelling permits per year. The City has not issued 500 dwelling units since 2005.

The Mayor and Board of Aldermen adopted an Adequate Public Facilities Ordinance (APFO) on September 17, 2007 (Ordinance G-7-19) which includes a test for schools.

Police

The City of Frederick has an excellent police department that has been nationally recognized.

In determining the need for officers, staff determined that 2.4 officers per 1,000 persons is a reasonable rate. Ratio provided by the Frederick City Police Force.

The City does not collect impact fees for police so the funding for the Frederick City Police Department comes from the City's General Fund.

This projection for additional services and revenues are based upon the City of Frederick issuing 500 dwelling permits per year. The City has not issued 500 dwelling units since 2005.

Year	Police Officers
1	2.8
2	5.5
3	8.3
4	11.1
5	13.9
6	16.6
7	19.4
8	22.2
9	24.9
10	27.7
11	30.5
12	33.2
13	36.0
14	38.8
15	41.6
16	44.3
17	47.1
18	49.9
19	52.6
20	55.4

Fire & Rescue

The City and the County are in agreement that a new fire station site on the Sanner Farm is an appropriate location. The City and County will need to finalize the agreement to subdivide and transfer this property to the County.

The City understands that the BOCC is actively pursuing a location on Thomas Johnson Drive. This property if utilized will be available once the FCPS moves into their new downtown location.

The Fire Tax shown on the table to the right is just for the new dwelling units expected in the next 20 years. This does not include the tax that will be collected on the existing properties within the City for the same time period.

The Fire Tax in the table to the right calculates only the fire tax for the 10,000 dwelling units. It does not include the non residential component of this exercise.

These projections for additional services and revenues are based upon the City of Frederick issuing 500 dwelling permits per year. The City has not issued 500 dwelling units since 2005.

Year	Fire Tax
1	\$223,104
2	\$446,208
3	\$669,312
4	\$892,416
5	\$1,115,520
6	\$1,338,624
7	\$1,561,728
8	\$1,784,832
9	\$2,007,936
10	\$2,231,040
11	\$2,454,144
12	\$2,677,248
13	\$2,900,352
14	\$3,123,456
15	\$3,346,560
16	\$3,569,664
17	\$3,792,768
18	\$4,015,872
19	\$4,238,976
20	\$4,462,080

The 2010 Frederick County Comprehensive Plan has the following fire station sites shown near the City of Frederick.

Fire Stations

- *East Frederick City – new station in the vicinity of the Frederick Municipal Airport.*
- *North Frederick City – new station in the vicinity of Christopher’s Crossing and Walter Martz Rd.*

Libraries

Once the County has determined the type of library needed, the City will work with the County to determine possible locations. Depending on the location and type, there could be several possibilities for a new library site.

The cost for a regional library is estimated to be \$9,000,000. Depending on the library type, the impact fees would fall \$2,000,000 short (for a regional library) or would cover the cost of construction for a branch library.

The impact fees were based on a third of the units being single family, townhouse and multifamily.

These projections for additional services and revenues are based upon the City of Frederick issuing 500 dwelling permits per year. The City has not issued 500 dwelling units since 2005.

The Frederick County Public Library web site has the Northern Frederick site as under study in 2015, in design 2016, under construction 2017 and open in 2018.

The 2010 Frederick County Comprehensive Plan has the following library sites shown near the City of Frederick. The plan does not recognize if this library is planned as a branch or a regional library.

Library Sites

- *West Frederick City – new branch facility near the intersection of Kemp Lane and Christopher’s Crossing near the Whittier development.*

Year	Impact Fee
1	\$340,798
2	\$681,596
3	\$1,022,394
4	\$1,363,192
5	\$1,703,990
6	\$2,044,788
7	\$2,385,586
8	\$2,726,384
9	\$3,067,182
10	\$3,407,980
11	\$3,748,778
12	\$4,089,576
13	\$4,430,374
14	\$4,771,172
15	\$5,111,970
16	\$5,452,768
17	\$5,793,566
18	\$6,134,364
19	\$6,475,162
20	\$6,815,960

Sewer

Wastewater treatment is provided for City properties at either the City owned and operated Gashouse Pike wastewater treatment plant (WWTP), or at Frederick County's Ballenger / McKinney WWTP. The total estimated wastewater treatment capacity needed to serve the City properties located within the growth limits as defined on the MGE map (year 2030) is 12.0 MGD. The City's Gashouse Pike WWTP provides 8.0 MGD of that capacity. The Monocacy Interceptor Capital Funding Agreement executed by the City and Frederick County in 1990 provides for up to 3.0 MGD of capacity for use by the City at the Ballenger

Year	Water & Sewer Gallons Per Day		
	DU's	Commercial	Total
1	108,400	90,000	198,400
2	216,800	180,000	396,800
3	325,200	270,000	595,200
4	433,600	360,000	793,600
5	542,000	450,000	992,000
6	650,400	540,000	1,190,400
7	758,800	630,000	1,388,800
8	867,200	720,000	1,587,200
9	975,600	810,000	1,785,600
10	1,084,000	900,000	1,984,000
11	1,192,400	990,000	2,182,400
12	1,300,800	1,080,000	2,380,800
13	1,409,200	1,170,000	2,579,200
14	1,517,600	1,260,000	2,777,600
15	1,626,000	1,350,000	2,976,000
16	1,734,400	1,440,000	3,174,400
17	1,842,800	1,530,000	3,372,800
18	1,951,200	1,620,000	3,571,200
19	2,059,600	1,710,000	3,769,600
20	2,168,000	1,800,000	3,968,000
Based on	225 gpd SF	.2 gpd / sq ft	
	225 gpd TH		
	175 gpd MF		

/ McKinney WWTP. After expansion of the County's Ballenger / McKinney WWTP to provide the 3.0 MGD of capacity for use by the City, an additional 1.0 MGD of wastewater treatment capacity will still be needed. The City may choose to either expand the Gashouse Pike WWTP, or seek approval of an agreement with Frederick County to provide an additional 1.0 MGD of capacity at the Ballenger / McKinney WWTP.

Sewer infrastructure improvements will be needed in order to serve the growth as defined on the MGE map. These infrastructure improvements will be required for both City and County infrastructure in order to convey wastewater flows to the Gashouse Pike and Ballenger / McKinney WWTP's. The City (and Frederick County) have an Adequate Public Facilities Ordinance (APFO) in place which requires that infrastructure improvements necessitated to provide for growth are financed by the owner/developer causing the impact to the infrastructure. In order to adequately plan for infrastructure upgrades needed to accommodate growth in the City (and growth in the County which drains to the sewer infrastructure used by both the City and County), a detailed study of the shared City/County sewage conveyance system should be performed to include analysis of pump stations, gravity mains/interceptors, siphon lines, and force main lines. A detailed study would establish a plan for upgrades needed to accommodate growth and

set deadlines by which infrastructure improvements must occur. This study would ensure that necessary upgrades are provided for by the owner/developer of a property at the time of development in accordance with City and County APFO's.

Water

In 2005 the City and County entered into the Potomac River Water Supply Agreement (PRWSA). The PRWSA agreement follows the 2002 Frederick Region Plan which was the plan in effect at the time. This agreement showed the potential service area which corresponds to the Urban Growth Boundary shown on the Comprehensive Plan Map. The agreement provides for 8.0 MGD (max day) of water from the County to the City with the potential for an additional 4.0 MGD (max day) in the future as needed to serve entire PRWSA service area for a total of 12.0 MGD.). The City has the ability to provide the balance of 7.57 MGD of potable water from City owned and operated water treatment plants. The total City water supply needed to accommodate growth to the growth limits (PRWSA service area) is 19.57 MGD (max day). It should be noted that the 4.0 MGD of potable water needed in the future as referenced in the PRWSA is subject to future negotiations between the City and County.

Water infrastructure improvements will be needed in order to serve the growth as defined on the MGE map. These infrastructure improvements will be required in order to maintain adequate pressure and supply within the City's water system. The City has an Adequate Public Facilities Ordinance (APFO) in place which requires that infrastructure improvements necessitated to provide for growth are financed by the owner/developer causing the impact to the infrastructure. The City completed an update to the Water Master Plan in 2009 which includes analysis of the entire water supply system and identifies necessary upgrades in order to accommodate growth. This update will be used to ensure that necessary improvements are provided for by the owner/developer of a property at the time of development in accordance with the City APFO's.

The Mayor and Board of Aldermen adopted an Adequate Public Facilities Ordinance (APFO) on September 17, 2007 (Ordinance G-7-19) which includes a test for water.

Taxes

Taxes are based on new residential and non residential construction. The residential taxes are based average cost of \$350,000 per unit.

The non residential tax is based on an asset value of \$100 square foot.

While the assumptions are based on the existing tax rate, these estimates are meant to show the revenue that the City and County would collect with new residential units and office / commercial space.

This chart is assuming 500 dwelling units will be built for the next 20 years.

This does not include the tax that will be collected on the existing properties within the City during the same time period.

Estimated Property Tax Revenue		
	City	County
1	\$1,132,950	\$1,678,509
2	\$2,265,900	\$3,357,018
3	\$3,398,850	\$5,035,527
4	\$4,531,800	\$6,714,036
5	\$5,664,750	\$8,392,545
6	\$6,797,700	\$10,071,054
7	\$7,930,650	\$11,749,563
8	\$9,063,600	\$13,428,072
9	\$10,196,550	\$15,106,581
10	\$11,329,500	\$16,785,090
11	\$12,462,450	\$18,463,599
12	\$13,595,400	\$20,142,108
13	\$14,728,350	\$21,820,617
14	\$15,861,300	\$23,499,126
15	\$16,994,250	\$25,177,635
16	\$18,127,200	\$26,856,144
17	\$19,260,150	\$28,534,653
18	\$20,393,100	\$30,213,162
19	\$21,526,050	\$31,891,671
20	\$22,659,000	\$33,570,180

Conclusion

Using population projection statistics supplied by the Maryland Department of Planning, Frederick County is projected to reach 326,224 persons by the year 2030. That is an increase by 93,000 persons. As outlined in Frederick County's Comprehensive Plan, the City of Frederick is expected to grow to a population of 97,642 by 2030.

While a number of the services are provided by the County, the City believes that with well-designed growth, the needed services can be planned for in a logical manner. The City also acknowledges that if a sewer agreement is not reached by the City and County, then much of the planned growth cannot and will not occur.

In conclusion, the City agrees with the County's Comprehensive Plan in regards to financing infrastructure.

Principle #2 – Funding for infrastructure improvements

This Plan recognizes the responsibilities of both the County and the land development community to provide the funding necessary for infrastructure improvements in Community Growth Areas.

This Plan also recognizes that the County approval for development in the Community Growth areas is conditioned on the ability of land developers to fund a significant portion of the cost for infrastructure improvements and that developers should identify mechanisms and sources.

The City, as well as the County, has tools in place to ensure that growth can be accommodated including, impact fees, APFO, annexation agreements, Capital Improvement Program (CIP) and Priority Funding Areas (PFA's).

The City of Frederick is certain with Frederick County's assistance that the projected growth can be adequately served. The City strongly supports the concept of thorough assessments of capacity, so that future improvements can be confidently estimated and the requisite developer funding can be assessed, obtained and then invested as necessary.