

# University of Michigan-FY2020 Annual Environmental Metrics Report

## Raw Data Overview

| Energy   | FY2006      | FY2007      | FY2008      | FY2009      | FY2010      | FY2011      | FY2012      | FY2013      | FY2014      | FY2015      | FY2016      | FY2017      | FY2018      | FY2019      | FY2020      |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Energy Consumption (MMBtu)                   | 6,855,207   | 6,330,317   | 6,338,547   | 6,509,271   | 6,903,207   | 7,168,086   | 7,414,679   | 7,218,097   | 7,636,595   | 7,703,849   | 6,904,072   | 7,077,255   | 6,975,104   | 6,924,524   | 6,708,722   |
| Total Energy Consumption (Btu/person)              | 91,244,604  | 83,128,476  | 81,173,920  | 82,214,756  | 85,725,366  | 87,921,775  | 89,252,831  | 84,634,023  | 88,811,044  | 88,623,333  | 78,499,076  | 78,111,086  | 74,450,349  | 72,254,651  | 68,089,502  |
| Total Energy Consumption (Btu/person/ft2)          | 3.19        | 2.71        | 2.60        | 2.62        | 2.52        | 2.55        | 2.51        | 2.38        | 2.50        | 2.42        | 2.13        | 2.11        | 1.99        | 1.91        | 1.79        |
| Building Energy (MMBtu)                            | 6,751,526   | 6,226,435   | 6,231,890   | 6,400,287   | 6,802,596   | 7,057,766   | 7,305,703   | 7,110,782   | 7,526,583   | 7,599,158   | 6,802,866   | 6,973,424   | 6,872,729   | 6,822,849   | 6,621,275   |
| Building Energy (Btu/ft2)                          | 235,906     | 202,984     | 199,930     | 203,812     | 200,088     | 205,055     | 205,795     | 200,267     | 212,183     | 207,798     | 184,906     | 188,742     | 183,367     | 180,237     | 173,866     |
| Building Energy (Btu/person)                       | 89,864,583  | 81,764,318  | 79,808,027  | 80,838,240  | 84,475,959  | 86,568,615  | 87,941,047  | 83,375,719  | 87,531,637  | 87,418,986  | 77,348,368  | 76,965,115  | 73,357,625  | 71,193,710  | 67,201,966  |
| Building Energy (Btu/ft2/person)                   | 3.14        | 2.67        | 2.56        | 2.57        | 2.48        | 2.52        | 2.48        | 2.35        | 2.47        | 2.39        | 2.10        | 2.08        | 1.96        | 1.88        | 1.76        |
| Transportation Energy Consumption (MMBtu)          | 103,681     | 103,882     | 106,657     | 108,984     | 100,611     | 110,320     | 108,976     | 107,316     | 110,012     | 104,692     | 101,206     | 103,831     | 102,375     | 101,675     | 87,447      |
| Transportation Energy Consumption (Btu/person)     | 1,380,021   | 1,364,158   | 1,365,893   | 1,376,516   | 1,249,408   | 1,353,160   | 1,311,783   | 1,258,304   | 1,279,406   | 1,204,348   | 1,150,709   | 1,145,971   | 1,092,724   | 1,060,941   | 887,536     |
| Bus Energy Consumption (MMBtu)                     | 39,121      | 38,599      | 40,748      | 41,445      | 42,033      | 43,595      | 44,481      | 43,591      | 44,261      | 42,641      | 41,098      | 41,471      | 42,725      | 44,574      | 21,978      |
| Bus Energy Consumption (Btu/passenger)             | 6,991       | 6,598       | 6,859       | 6,896       | 6,459       | 6,336       | 5,996       | 5,894       | 5,976       | 5,795       | 5,853       | 5,558       | 5,425       | 5,964       | 3,744       |
| Fleet Vehicles Energy Consumption (MMBtu)          | 64,560      | 65,283      | 65,910      | 67,539      | 58,579      | 66,726      | 64,495      | 63,725      | 65,751      | 62,050      | 60,108      | 62,356      | 59,651      | 57,101      | 65,469      |
| Renewable Percentage for Transportation Energy (%) | 19.6        | 19.0        | 18.7        | 18.5        | 16.3        | 18.0        | 17.3        | 16.5        | 10.1        | 9.9         | 9.3         | 9.0         | 7.7         | 7.0         | 6.4         |
| Campus Bus Ridership (Total passengers)            | 5,596,054   | 5,850,234   | 5,940,576   | 6,010,276   | 6,507,915   | 6,880,323   | 7,418,841   | 7,395,131   | 7,406,088   | 7,358,251   | 7,022,036   | 7,461,222   | 7,876,102   | 7,473,296   | 5,869,892   |
| Van Pooling (Vehicle miles)                        | 1,291,409   | 1,436,915   | 1,396,910   | 1,576,298   | 1,715,952   | 1,430,065   | 1,792,914   | 1,654,942   | 1,511,835   | 1,857,209   | 1,864,961   | 1,833,582   | 1,778,571   | 1,537,912   | --          |
| Van Pooling (Passenger miles)                      | 7,824,153   | 8,659,109   | 7,467,818   | 8,085,266   | 10,464,984  | 8,996,422   | 11,160,495  | 10,213,106  | 9,300,804   | 11,904,911  | 11,175,396  | 9,955,009   | 10,650,877  | 9,316,207   | --          |
| Van Pool (Number of passengers)                    | 424         | 476         | 498         | 527         | 532         | 569         | 624         | 612         | 644         | 677         | 630         | 464         | 608         | 770         | 604         |
| M-Ride Bus Ridership                               | 2,014,753   | 2,091,564   | 2,212,941   | 2,430,501   | 2,300,718   | 2,387,588   | 2,543,124   | 2,737,718   | 2,701,905   | 2,523,203   | 2,343,361   | 2,485,373   | 2,650,807   | 2,544,931   | 1,871,292   |
| Bicycle Ridership (Number of bike racks)           | 3,412       | 3,412       | 3,412       | 4,250       | 4,250       | 4,300       | 4,300       | 4,385       | 4,390       | 4,390       | 4,381       | 4,381       | 4,417       | 4,425       | 4,497       |
| Purchased Electricity from Renew. Sources (MWh)    | 866         | 4,813       | 5,063       | 5,242       | 6,587       | 7,513       | 8,977       | 18,004      | 23,193      | 34,424      | 38,984      | 42,542      | 43,164      | 42,787      | 42,624      |
| Purchased Electric (kwh)                           | 433,064,274 | 437,583,452 | 460,274,660 | 436,860,957 | 506,719,832 | 577,941,935 | 498,724,851 | 527,964,134 | 487,255,416 | 488,283,476 | 503,674,291 | 525,215,434 | 504,845,462 | 530,861,576 | 491,625,830 |
| Purchased Natural Gas (CCF)                        | 51,770,377  | 46,460,401  | 45,675,423  | 48,189,300  | 50,042,555  | 50,320,452  | 54,829,329  | 52,533,478  | 57,935,946  | 58,708,083  | 50,308,475  | 51,271,081  | 50,961,343  | 49,575,879  | 48,937,477  |
| Purchased LP Gas (Gall)                            | 35,517      | 35,954      | 34,620      | 39,406      | 29,710      | 33,688      | 29,008      | 34,594      | 35,644      | 36,731      | 31,345      | 29,366      | 30,566      | 13,799      | 9,464       |
| Purchased Fuel Oil (gal)                           | 0           | 0           | 57,992      | 0           | 119,992     | 0           | 456,807     | 0           | 65,011      | 0           | 0           | 0           | 0           | 20,111      | 0           |
| Gallons E85 Total                                  | 146,779     | 143,582     | 140,769     | 140,074     | 121,549     | 135,621     | 118,056     | 105,271     | 33,581      | 26,788      | 31,634      | 15,372      | 21,968      | 16,161      | 9,839       |
| Gallons E70 Total                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 54,327      | 41,766      | 32,883      | 26,915      | 23,245      | 20,329      | 13,054      |
| Gallons E75 Total                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 13,528      | 0           | 0           | 0           |
| Gallons ULSD/20%Biodiesel Total                    | 288,777     | 347,074     | 363,648     | 370,702     | 283,408     | 373,047     | 382,342     | 373,516     | 203,530     | 220,708     | 193,116     | 213,818     | 183,450     | 176,419     | 151,046     |
| Gallons ULSD/5%Biodiesel Total                     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 147,155     | 167,783     | 155,965     | 192,731     | 206,277     | 182,151     |
| Gallons Ultra-Low Sulfur Diesel Total              | 0           | 0           | 0           | 0           | 57,500      | 0           | 0           | 0           | 180,248     | 0           | 0           | 0           | 0           | 0           | 0           |
| Gallons Unleaded Gas Total                         | 326,802     | 345,035     | 351,025     | 362,374     | 341,396     | 373,696     | 365,417     | 371,088     | 390,649     | 380,447     | 363,540     | 380,922     | 370,437     | 364,087     | 315,019     |
| Gallons E85 Buses                                  | 648         | 627         | 1,567       | 1,805       | 1,308       | 1,268       | 2,410       | 2,766       | 655         | 1,773       | 460         | 164         | 282         | 730         | 80          |
| Gallons E70 Buses                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1,039       | 1,317       | 343         | 103         | 328         | 43          | 214         |
| Gallons E75 Buses                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 100         | 0           | 0           | 0           |
| Gallons ULSD/20%Biodiesel Buses                    | 248,966     | 279,275     | 294,708     | 299,932     | 258,077     | 315,352     | 320,271     | 310,706     | 167,439     | 178,249     | 154,113     | 164,740     | 142,805     | 144,057     | 124,137     |
| Gallons ULSD/5%Biodiesel Buses                     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 122,582     | 137,220     | 126,675     | 157,267     | 168,649     | 26,901      |
| Gallons Ultra-Low Sulfur Diesel Buses              | 0           | 0           | 0           | 0           | 45,982      | 0           | 0           | 0           | 147,928     | 0           | 0           | 0           | 0           | 0           | 0           |
| Gallons Unleaded Gas Buses                         | 1,136       | 952         | 479         | 138         | 500         | 750         | 1,603       | 4,744       | 5,208       | 7,412       | 7,185       | 10,432      | 10,668      | 11,427      | 9,292       |
| Gallons E85 Fleet                                  | 146,131     | 142,956     | 139,202     | 138,269     | 120,242     | 134,353     | 115,647     | 102,505     | 32,925      | 25,015      | 31,174      | 15,209      | 21,686      | 15,431      | 9,759       |
| Gallons E70 Fleet                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 53,289      | 40,449      | 32,540      | 26,812      | 22,916      | 20,286      | 12,840      |
| Gallons E75 Fleet                                  | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 13,429      | 0           | 0           | 0           |
| Gallons ULSD/20%Biodiesel Fleet                    | 39,811      | 67,798      | 68,941      | 70,771      | 25,330      | 57,695      | 62,071      | 62,810      | 36,091      | 42,459      | 39,003      | 49,078      | 40,645      | 32,362      | 26,909      |
| Gallons ULSD/5%Biodiesel Fleet                     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 24,573      | 30,563      | 29,290      | 35,465      | 37,628      | 155,250     |
| Gallons Ultra-Low Sulfur Diesel Fleet              | 0           | 0           | 0           | 0           | 11,519      | 0           | 0           | 0           | 32,320      | 0           | 0           | 0           | 0           | 0           | 0           |
| Gallons Unleaded Gas Fleet                         | 325,666     | 344,083     | 350,546     | 362,236     | 340,896     | 372,946     | 363,815     | 366,344     | 385,441     | 373,035     | 356,355     | 370,461     | 359,769     | 352,661     | 305,728     |
| Number Vehicles                                    | 1,124       | 1,094       | 1,100       | 1,121       | 1,079       | 1,059       | 1,080       | 1,070       | 1,079       | 1,047       | 1,029       | 1,032       | 1,074       | 1,051       | 1,056       |
| Electric Vehicles                                  | 0           | 0           | 0           | 0           | 3           | 15          | 15          | 15          | 15          | 8           | 6           | 5           | 3           | 0           | 0           |
| Hybrid Vehicles                                    | 5           | 5           | 5           | 14          | 14          | 27          | 56          | 56          | 53          | 53          | 54          | 37          | 29          | 30          | 28          |
| E85 Fueled Vehicles                                | 471         | 483         | 491         | 501         | 545         | 524         | 526         | 562         | 612         | 630         | 623         | 620         | 623         | 501         | 485         |
| Unleaded Gas Cars                                  | 72          | 65          | 58          | 72          | 67          | 52          | 51          | 50          | 44          | 43          | 40          | 43          | 70          | 109         | 110         |
| Unleaded Gas Trucks                                | 472         | 445         | 446         | 436         | 352         | 343         | 334         | 300         | 268         | 226         | 224         | 247         | 265         | 323         | 346         |
| Biodiesel Buses                                    | 54          | 58          | 61          | 61          | 62          | 62          | 60          | 49          | 49          | 37          | 28          | 25          | 21          | 25          | 24          |
| Biodiesel Hybrid Buses                             | 0           | 0           | 0           | 0           | 0           | 0           | 4           | 7           | 7           | 20          | 25          | 25          | 30          | 29          | 29          |
| Unleaded Hybrid Buses                              | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| Biodiesel Trucks                                   | 48          | 36          | 37          | 35          | 34          | 34          | 32          | 29          | 29          | 28          | 27          | 28          | 31          | 32          | 32          |

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## Raw Data Overview

| Air Emissions   | FY2006  | FY2007  | FY2008  | FY2009  | FY2010  | FY2011  | FY2012  | FY2013  | FY2014  | FY2015  | FY2016  | FY2017  | FY2018  | FY2019  | FY2020  |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Total Greenhouse Gas Emissions (MTCO2E)                     | 619,869 | 599,533 | 615,416 | 591,698 | 671,605 | 721,839 | 684,398 | 709,982 | 683,847 | 682,965 | 641,931 | 643,932 | 630,405 | 645,485 | 592,737 |
| Total Greenhouse Gas Emissions (MTCO2E/person)              | 8.25    | 7.87    | 7.88    | 7.47    | 8.34    | 8.85    | 8.24    | 8.32    | 7.95    | 7.86    | 7.30    | 7.11    | 6.73    | 6.74    | 6.02    |
| UM Generated Greenhouse Gas Emissions (MTCO2E)              | 290,164 | 261,207 | 257,714 | 271,031 | 281,730 | 282,727 | 311,906 | 294,601 | 324,981 | 328,144 | 282,030 | 287,463 | 285,681 | 278,190 | 273,447 |
| UM Generated Greenhouse Gas Emissions (MTCO2E/person)       | 3.86    | 3.43    | 3.30    | 3.42    | 3.50    | 3.47    | 3.75    | 3.45    | 3.78    | 3.77    | 3.21    | 3.17    | 3.05    | 2.90    | 2.78    |
| Stationary Sources: Greenhouse Gas Emissions (MTCO2E)       | 282,702 | 253,728 | 250,032 | 263,181 | 274,474 | 274,780 | 304,049 | 286,861 | 317,015 | 320,567 | 274,702 | 279,944 | 278,260 | 270,815 | 267,101 |
| Stationary Sources: CO2 (MTCO2)                             | 281,935 | 253,040 | 249,352 | 262,467 | 273,725 | 274,035 | 303,209 | 286,083 | 316,153 | 319,698 | 273,957 | 279,185 | 277,506 | 270,080 | 266,377 |
| Stationary Sources: CO2 (MTCO2/person)                      | 3.75    | 3.32    | 3.19    | 3.32    | 3.40    | 3.36    | 3.65    | 3.35    | 3.68    | 3.68    | 3.11    | 3.08    | 2.96    | 2.82    | 2.70    |
| Stationary Sources: CH4 (kg)                                | 28,144  | 25,261  | 24,925  | 26,203  | 27,390  | 27,355  | 30,522  | 28,557  | 31,595  | 31,912  | 27,346  | 27,867  | 27,700  | 26,964  | 26,582  |
| Stationary Sources: CH4 (kg/person)                         | 0.37    | 0.33    | 0.32    | 0.33    | 0.34    | 0.34    | 0.37    | 0.33    | 0.37    | 0.37    | 0.31    | 0.31    | 0.30    | 0.28    | 0.27    |
| Stationary Sources: N2O (kg)                                | 566     | 508     | 505     | 527     | 558     | 550     | 643     | 575     | 640     | 642     | 550     | 560     | 557     | 543     | 534     |
| Stationary Sources: N2O (kg/person)                         | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| Stationary Sources: CO (lbs)                                | 434,871 | 390,267 | 383,964 | 404,790 | 420,957 | 422,692 | 462,850 | 441,281 | 486,987 | 493,148 | 422,591 | 430,677 | 428,075 | 416,538 | 411,075 |
| Stationary Sources: CO (lbs/person)                         | 5.79    | 5.12    | 4.92    | 5.11    | 5.23    | 5.18    | 5.57    | 5.17    | 5.66    | 5.67    | 4.80    | 4.75    | 4.57    | 4.35    | 4.17    |
| Stationary Sources: NOx (lbs)                               | 684,042 | 613,881 | 604,429 | 636,725 | 663,114 | 684,884 | 731,700 | 694,125 | 766,538 | 775,710 | 664,726 | 677,445 | 673,352 | 655,365 | 646,611 |
| Stationary Sources: NOx (lbs/person)                        | 9.10    | 8.06    | 7.74    | 8.04    | 8.23    | 8.16    | 8.81    | 8.14    | 8.91    | 8.92    | 7.56    | 7.48    | 7.19    | 6.84    | 6.56    |
| Stationary Sources: Volatile Organic Compounds (lbs)        | 28,474  | 25,553  | 25,133  | 26,504  | 27,547  | 27,676  | 30,247  | 28,893  | 31,878  | 32,289  | 27,670  | 28,199  | 28,029  | 27,271  | 26,916  |
| Stationary Sources: Volatile Organic Compounds (lbs/person) | 0.38    | 0.34    | 0.32    | 0.33    | 0.34    | 0.34    | 0.36    | 0.34    | 0.37    | 0.37    | 0.31    | 0.31    | 0.30    | 0.28    | 0.27    |
| Stationary Sources: PM-10 (lbs)                             | 29,509  | 26,482  | 26,093  | 27,468  | 28,644  | 28,683  | 31,710  | 29,944  | 33,089  | 33,464  | 28,676  | 29,225  | 29,048  | 28,278  | 27,894  |
| Stationary Sources: PM-10 (lbs/person)                      | 0.39    | 0.35    | 0.33    | 0.35    | 0.36    | 0.35    | 0.38    | 0.35    | 0.38    | 0.38    | 0.33    | 0.32    | 0.31    | 0.30    | 0.28    |
| Stationary Sources: PM-2.5 (lbs)                            | 29,509  | 26,482  | 26,049  | 27,468  | 28,554  | 28,683  | 31,367  | 29,944  | 33,040  | 33,464  | 28,676  | 29,225  | 29,048  | 28,263  | 27,894  |
| Stationary Sources: PM-2.5 (lbs/person)                     | 0.39    | 0.35    | 0.33    | 0.35    | 0.35    | 0.35    | 0.38    | 0.35    | 0.38    | 0.38    | 0.33    | 0.32    | 0.31    | 0.29    | 0.28    |
| Stationary Sources: SO2 (lbs)                               | 3,106   | 2,788   | 3,159   | 2,891   | 3,868   | 3,019   | 6,583   | 3,152   | 3,945   | 3,522   | 3,019   | 3,076   | 3,058   | 3,120   | 2,936   |
| Stationary Sources: SO2 (lbs/person)                        | 0.04    | 0.04    | 0.04    | 0.04    | 0.05    | 0.04    | 0.08    | 0.04    | 0.05    | 0.04    | 0.03    | 0.03    | 0.03    | 0.03    | 0.03    |
| Stationary Sources: Pb (lbs)                                | 2.59    | 2.32    | 2.37    | 2.41    | 2.68    | 2.52    | 3.43    | 2.63    | 2.99    | 2.94    | 2.52    | 2.56    | 2.55    | 2.51    | 2.45    |
| Stationary Sources: Pb (lbs/person)                         | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00004 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00003 | 0.00002 |
| Mobile Sources: Renewable GHG Emissions (MTCO2E)            | 1,390   | 1,351   | 1,368   | 1,378   | 1,124   | 1,361   | 1,293   | 1,214   | 764     | 781     | 727     | 715     | 635     | 588     | 469     |
| Mobile Sources: Renewable CO2 (MTCO2)                       | 1,355   | 1,316   | 1,334   | 1,344   | 1,095   | 1,327   | 1,262   | 1,186   | 744     | 764     | 711     | 701     | 623     | 577     | 462     |
| Mobile Sources: Renewable CH4 (kg)                          | 276     | 269     | 266     | 266     | 227     | 259     | 232     | 211     | 148     | 127     | 121     | 108     | 92      | 78      | 55      |
| Mobile Sources: Renewable N2O (kg)                          | 97      | 94      | 94      | 94      | 79      | 91      | 83      | 75      | 52      | 46      | 43      | 39      | 34      | 29      | 21      |
| Mobile Sources: Fossil GHG Emissions (MTCO2E)               | 6,071   | 6,128   | 6,313   | 6,472   | 6,132   | 6,587   | 6,564   | 6,526   | 7,203   | 6,796   | 6,601   | 6,804   | 6,786   | 6,787   | 5,877   |
| Mobile Sources: Fossil CO2 (MTCO2)                          | 5,968   | 6,021   | 6,204   | 6,359   | 6,026   | 6,472   | 6,451   | 6,413   | 7,080   | 6,679   | 6,488   | 6,687   | 6,671   | 6,673   | 5,779   |
| Mobile Sources: Fossil CH4 (kg)                             | 771     | 796     | 813     | 836     | 788     | 856     | 841     | 843     | 912     | 871     | 837     | 869     | 850     | 840     | 725     |
| Mobile Sources: Fossil N2O (kg)                             | 283     | 291     | 298     | 306     | 289     | 313     | 308     | 309     | 335     | 319     | 307     | 319     | 313     | 310     | 268     |
| Purchased Electricity GHG Emission (MTCO2E)                 | 329,705 | 338,326 | 357,703 | 320,667 | 389,875 | 439,112 | 372,492 | 415,381 | 358,866 | 354,821 | 358,902 | 356,468 | 344,724 | 367,295 | 319,290 |
| Purchased Electricity CO2 Emission (MTCO2)                  | 327,983 | 336,586 | 355,872 | 318,930 | 387,860 | 436,813 | 370,509 | 413,282 | 356,928 | 352,879 | 357,899 | 354,380 | 342,716 | 365,184 | 317,335 |
| Purchased Electricity CH4 (kg)                              | 3,122   | 3,155   | 3,319   | 3,150   | 3,653   | 4,167   | 3,596   | 3,807   | 3,513   | 3,521   | 3,631   | 3,787   | 3,640   | 3,828   | 3,545   |
| Purchased Electricity N2O (kg)                              | 5,344   | 5,400   | 5,680   | 5,391   | 6,253   | 7,132   | 6,154   | 6,515   | 6,013   | 6,025   | 6,215   | 6,481   | 6,230   | 6,551   | 6,067   |
| REC Purchases (MWH)   | NA      | NA      | NA      | NA      | 3,255   | 10,494  | 5,367   | 9,058   | 9,531   | 7,786   | 8,195   | 10,334  | 8,795   | 7,628   | 0       |

| Water Use                              | FY2006        | FY2007        | FY2008        | FY2009        | FY2010        | FY2011        | FY2012        | FY2013        | FY2014        | FY2015        | FY2016        | FY2017        | FY2018        | FY2019        | FY2020        |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total Water Use (gal)                  | 1,348,911,444 | 1,283,496,878 | 1,294,872,532 | 1,244,617,847 | 1,206,818,521 | 1,280,954,419 | 1,310,561,016 | 1,332,744,060 | 1,218,723,316 | 1,160,683,892 | 1,232,532,318 | 1,331,910,633 | 1,216,188,610 | 1,210,297,948 | 1,105,778,795 |
| Total Water Use (gal/person)           | 17,954        | 16,855        | 16,583        | 15,720        | 14,987        | 15,712        | 15,776        | 15,627        | 14,173        | 13,352        | 14,014        | 14,700        | 12,981        | 12,629        | 11,223        |
| Total Purchased Water (gal)            | 1,315,767,904 | 1,251,443,195 | 1,260,189,260 | 1,206,163,778 | 1,176,390,072 | 1,244,714,636 | 1,267,897,894 | 1,285,915,972 | 1,184,843,968 | 1,136,099,097 | 1,184,270,641 | 1,283,544,917 | 1,162,402,068 | 1,177,533,487 | 1,065,361,305 |
| Total Purchased Water (gal/person)     | 17,513        | 16,434        | 16,138        | 15,234        | 14,609        | 15,267        | 15,262        | 15,078        | 13,779        | 13,069        | 13,465        | 14,166        | 12,407        | 12,287        | 10,813        |
| Total Discharge to Sewers (gal)        | 1,052,614,323 | 1,001,154,556 | 1,008,151,408 | 964,931,023   | 941,112,058   | 995,771,709   | 1,014,318,315 | 1,028,732,778 | 947,875,174   | 908,879,278   | 947,416,513   | 1,026,835,933 | 929,921,654   | 942,026,790   | 852,289,044   |
| Total Discharge to Sewers (gal/person) | 14,011        | 13,147        | 12,911        | 12,187        | 11,687        | 12,214        | 12,210        | 12,062        | 11,023        | 10,456        | 10,772        | 11,333        | 9,926         | 9,830         | 8,650         |
| Total Irrigation (gallons)             | 33,143,540    | 32,053,683    | 34,683,272    | 38,454,069    | 30,428,449    | 36,239,783    | 42,663,122    | 46,828,088    | 33,879,348    | 24,584,795    | 48,261,677    | 48,365,716    | 53,786,542    | 32,764,461    | 40,417,490    |

| Land Use  | FY2006     | FY2007     | FY2008     | FY2009     | FY2010     | FY2011     | FY2012     | FY2013     | FY2014     | FY2015     | FY2016     | FY2017     | FY2018     | FY2019     | FY2020     |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total Impervious Surface Area (acres)                     | 427        | 530        | 534        | 584        | 584        | 643        | 648        | 649        | 658        | 629        | 645        | 630        | 675        | 672        | 651        |
| Total Impervious Surface Area (% of campus area)          | 14         | 17         | 17         | 19         | 18         | 20         | 20         | 20         | 20         | 19         | 20         | 19         | 22         | 22         | 22         |
| Total Green Space (acres)                                 | 2,644      | 2,541      | 2,537      | 2,486      | 2,660      | 2,601      | 2,596      | 2,595      | 2,607      | 2,636      | 2,618      | 2,633      | 2,336      | 2,325      | 2,346      |
| Total Green Space (% of campus area)                      | 86         | 83         | 83         | 81         | 82         | 80         | 80         | 80         | 80         | 81         | 80         | 81         | 78         | 78         | 78         |
| Maintained Green Space (acres)                            | 699        | 699        | 758        | 733        | 732        | 781        | 856        | 862        | 865        | 862        | 909        | 913        | 913        | 1,022      | 1,030      |
| Maintained Green Space (% of campus area)                 | 23         | 23         | 25         | 24         | 23         | 24         | 26         | 27         | 26         | 26         | 28         | 28         | 30         | 34         | 34         |
| Unmaintained (Natural) Green Space (acres)                | 1,945      | 1,842      | 1,779      | 1,754      | 1,928      | 1,820      | 1,740      | 1,733      | 1,742      | 1,774      | 1,709      | 1,720      | 1,423      | 1,303      | 1,316      |
| Unmaintained (Natural) Green Space (% of campus area)     | 63         | 60         | 58         | 57         | 59         | 56         | 54         | 53         | 53         | 54         | 52         | 53         | 47         | 43         | 44         |
| Land Maintenance Chemicals (pounds)                       | 45,948     | 42,558     | 39,022     | 37,501     | 37,925     | 35,068     | 42,130     | 33,800     | 20,980     | 29,598     | 30,227     | 26,219     | 28,758     | 22,289     | 21,170     |
| Total Land Area (acres)                                   | 3,071      | 3,071      | 3,070      | 3,070      | 3,244      | 3,244      | 3,244      | 3,244      | 3,265      | 3,265      | 3,263      | 3,263      | 3,011      | 2,997      | 2,997      |
| Tree Population   | 14,180     | 14,180     | 13,958     | 14,006     | 13,613     | 15,060     | 16,408     | 16,654     | 16,549     | 16,168     | 16,197     | 16,052     | 16,437     | 17,508     | 17,104     |
| Deck Parking (# of deck parking spots)                    | 10,058     | 10,824     | 10,777     | 10,759     | 10,717     | 11,310     | 11,957     | 11,996     | 11,977     | 12,663     | 12,626     | 12,624     | 12,624     | 12,624     | 12,630     |
| Total Parking (# of parking spots)                        | 23,591     | 23,808     | 23,905     | 23,773     | 24,612     | 26,936     | 27,228     | 27,563     | 27,320     | 28,013     | 28,180     | 28,801     | 28,717     | 29,069     | 29,231     |
| Deck Parking (% of parking spaces that are parking decks) | 43         | 45         | 45         | 45         | 44         | 42         | 44         | 44         | 44         | 45         | 45         | 44         | 44         | 43         | 43         |
| Total Building Area (ft <sup>2</sup> )                    | 28,619,505 | 30,674,494 | 31,170,301 | 31,402,904 | 33,998,091 | 34,418,892 | 35,499,892 | 35,506,582 | 35,472,141 | 36,569,894 | 36,790,966 | 36,946,938 | 37,480,794 | 37,854,937 | 38,082,716 |
| Total Building Area (ft <sup>2</sup> /person)             | 381        | 403        | 399        | 397        | 422        | 422        | 427        | 416        | 413        | 421        | 418        | 408        | 400        | 395        | 387        |
| Total Number of Buildings                                 | 393        | 389        | 380        | 377        | 384        | 387        | 387        | 387        | 398        | 376        | 382        | 382        | 371        | 379        | 388        |

| Waste   | FY2006    | FY2007    | FY2008    | FY2009    | FY2010    | FY2011    | FY2012    | FY2013    | FY2014    | FY2015    | FY2016    | FY2017    | FY2018    | FY2019    | FY2020    |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Total Waste (tons)                                | 17,867    | 18,542    | 19,182    | 19,284    | 17,682    | 17,181    | 17,867    | 17,534    | 16,962    | 18,404    | 19,777    | 19,311    | 19,922    | 20,166    | 16,622    |
| Total Landfill (tons)                             | 13,170    | 13,920    | 14,053    | 13,626    | 12,647    | 12,335    | 13,061    | 11,892    | 12,060    | 12,940    | 14,079    | 12,780    | 12,396    | 12,801    | 10,973    |
| Total Diverted from Landfill (tons)               | 4,697     | 4,622     | 5,129     | 5,657     | 5,035     | 4,847     | 4,806     | 5,642     | 4,902     | 5,464     | 5,698     | 6,531     | 7,526     | 7,365     | 5,649     |
| % Diverted from Landfill                          | 26        | 25        | 27        | 29        | 28        | 28        | 27        | 32        | 29        | 30        | 29        | 34        | 38        | 37        | 34        |
| Campus Waste (tons)                               | 10,368    | 10,497    | 10,435    | 10,574    | 10,086    | 10,389    | 10,378    | 10,892    | 10,436    | 11,195    | 11,114    | 12,165    | 13,081    | 13,283    | 10,349    |
| Campus Landfill (tons)                            | 7,285     | 7,516     | 7,343     | 7,196     | 6,924     | 7,101     | 7,158     | 7,097     | 6,797     | 7,137     | 6,967     | 7,278     | 7,441     | 7,405     | 5,859     |
| Campus Diverted from Landfill (tons)              | 3,083     | 2,981     | 3,091     | 3,378     | 3,162     | 3,288     | 3,220     | 3,794     | 3,639     | 4,058     | 4,147     | 4,887     | 5,639     | 5,878     | 4,490     |
| Campus Recycling (tons)                           | 2,830     | 2,722     | 2,850     | 2,729     | 2,818     | 2,885     | 2,969     | 2,990     | 2,895     | 2,892     | 2,981     | 3,579     | 4,051     | 4,093     | 3,182     |
| Campus Compost (tons)                             | 49        | 34        | 41        | 68        | 63        | 109       | 143       | 318       | 351       | 460       | 622       | 779       | 1,025     | 1,144     | 1,135     |
| Campus Mulch (tons)                               | 204       | 226       | 200       | 581       | 281       | 295       | 108       | 486       | 393       | 706       | 544       | 530       | 564       | 642       | 173       |
| Regulated Recycling- Batteries (tons)             | 24        | 18        | 20        | 17        | 18        | 18        | 18        | 28        | 24        | 33        | 25        | 33        | 31        | 30        | 32        |
| Regulated Recycling- Lamp Ballasts (tons)         | 23        | 24        | 22        | 19        | 16        | 20        | 20        | 17        | 13        | 15        | 20        | 15        | 16        | 23        | 12        |
| Regulated Recycling- Consumer Electronics (tons)  | 70        | 53        | 74        | 149       | 143       | 139       | 155       | 123       | 137       | 150       | 169       | 149       | 167       | 183       | 214       |
| Regulated Recycling- Fluorescent Bulbs (tons)     | 46        | 46        | 39        | 58        | 53        | 139       | 59        | 41        | 48        | 62        | 59        | 57        | 78        | 70        | 41        |
| Regulated Recycling- Transportation Oil (gallons) | 0         | 5,536     | 4,816     | 8,354     | 10,327    | 8,226     | 9,097     | 6,779     | 8,142     | 6,204     | 5,680     | 7,471     | 7,149     | 9,475     | 7,278     |
| Regulated Recycling- Latex Paint (gallons)        | 312       | 153       | 739       | 925       | 1,735     | 881       | 972       | 1,673     | 978       | 777       | 1,157     | 1,319     | 1,483     | 1,713     | 1,973     |
| Regulated Recycling- Coolants (gallons)           | 500       | 3,146     | 1,116     | 921       | 1,252     | 921       | 1,176     | 1,465     | 921       | 475       | 3,130     | 1,985     | 4,870     | 770       | 840       |
| Regulated Recycling- Oil Filters (pounds)         | 0         | 0         | 0         | 0         | 0         | 6,682     | 7,799     | 9,200     | 6,325     | 8,430     | 6,750     | 6,520     | 6,273     | 4,811     | 6,151     |
| UMHS Waste (tons)                                 | 7,499     | 8,045     | 8,747     | 8,709     | 7,596     | 6,792     | 7,489     | 6,642     | 6,526     | 7,208     | 8,663     | 7,146     | 6,841     | 6,882     | 6,273     |
| UMHS Landfill (tons)                              | 5,885     | 6,405     | 6,710     | 6,430     | 5,723     | 5,234     | 5,903     | 4,794     | 5,263     | 5,803     | 7,112     | 5,502     | 4,955     | 5,396     | 5,114     |
| UMHS Diverted from Landfill (tons)                | 1,614     | 1,641     | 2,037     | 2,279     | 1,873     | 1,559     | 1,586     | 1,847     | 1,263     | 1,406     | 1,551     | 1,644     | 1,886     | 1,487     | 1,159     |
| UMHS Paper Recycled (tons)                        | 963       | 912       | 967       | 797       | 741       | 767       | 693       | 624       | 630       | 719       | 601       | 689       | 991       | 616       | 593       |
| UMHS Cardboard Recycled (tons)                    | 507       | 535       | 485       | 476       | 437       | 431       | 523       | 446       | 442       | 435       | 461       | 455       | 483       | 503       | 272       |
| UMHS Recycled Wood (tons)                         | 0         | 0         | 64        | 63        | 63        | 63        | 63        | 63        | 63        | 66        | 63        | 63        | 63        | 20        | 14        |
| UMHS Scrap Metal Recycled (tons)                  | 74        | 111       | 448       | 787       | 485       | 158       | 191       | 570       | 23        | 21        | 232       | 324       | 249       | 248       | 209       |
| UMHS Plastic Recycled (tons)                      | 35        | 51        | 55        | 76        | 64        | 54        | 47        | 65        | 18        | 52        | 62        | 15        | 15        | 8         | 5         |
| UMHS Yellow Kitchen Grease Recycled (tons)        | 36        | 32        | 20        | 12        | 9         | 6         | 6         | 8         | 1         | 0         | 0         | 0         | 0         | 0         | 1         |
| UMHS Linens (tons)                                | 0         | 0         | 0         | 47        | 45        | 42        | 41        | 47        | 61        | 52        | 69        | 50        | 53        | 57        | 49        |
| UMHS Medical Equipment (tons)                     | 0         | 0         | 0         | 21        | 23        | 26        | 21        | 20        | 19        | 51        | 54        | 39        | 27        | 28        | 12        |
| UMHS Toner Cartridges(tons)                       | 0         | 0         | 0         | 1         | 6         | 11        | 1         | 4         | 5         | 8         | 8         | 10        | 6         | 8         | 4         |
| Reuse-PD (\$)                                     | 1,251,000 | 1,872,000 | 2,390,576 | 1,415,442 | 1,953,804 | 1,761,374 | 2,316,776 | 2,454,259 | 3,061,205 | 3,180,000 | 2,353,056 | 3,689,583 | 3,061,860 | 5,354,740 | 3,184,777 |
| Salt Use (tons)                                   | 1,638     | 1,886     | 3,080     | 1,927     | 1,551     | 3,290     | 1,579     | 2,140     | 3,934     | 2,227     | 1,800     | 2,052     | 3,162     | 3,368     | 2,100     |
| Salt Use (pounds/person)                          | 44        | 50        | 79        | 49        | 39        | 81        | 38        | 50        | 92        | 51        | 41        | 45        | 68        | 70        | 43        |

| Procurement  | FY2006 | FY2007  | FY2008  | FY2009  | FY2010  | FY2011  | FY2012  | FY2013  | FY2014  | FY2015  | FY2016  | FY2017  | FY2018  | FY2019  | FY2020  |
|--|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Total Paper Purchases (Reams)                      | NA     | NA      | 621,360 | 607,385 | 593,963 | 589,356 | 587,255 | 546,208 | 514,752 | 472,298 | 544,002 | 377,106 | 421,799 | 397,158 | 302,382 |
| Paper Purchase-30% Post Consumer Recycled (Reams)  | NA     | NA      | 129,346 | 79,331  | 140,207 | 155,628 | 174,593 | 174,821 | 139,151 | 129,065 | 185,278 | 57,972  | 100,681 | 92,269  | 62,145  |
| Paper Purchase-50% Post Consumer Recycled (Reams)  | NA     | NA      | 3,997   | 7,617   | 13,060  | 13,733  | 12,074  | 18,560  | 16,330  | 16,647  | 13,306  | 2,057   | 8,028   | 4,270   | 1,800   |
| Paper Purchase-100% Post Consumer Recycled (Reams) | NA     | 0       | 12,276  | 11,139  | 24,886  | 18,635  | 18,317  | 13,591  | 10,849  | 8,237   | 7,112   | 56,527  | 4,410   | 4,200   | 3,495   |
| Paper Purchase-% Post Consumer Recycled Content    | NA     | 0       | 9       | 6       | 12      | 12      | 13      | 14      | 12      | 12      | 13      | 20      | 9       | 9       | 8       |
| Bottled Water Purchases-Individual Sized           | NA     | 584,368 | 536,755 | 385,187 | 599,406 | 547,207 | 628,116 | 829,967 | 645,114 | 330,859 | 578,428 | 619,857 | 624,887 | 573,910 | 415,800 |

| Cross-Cutting & Emerging                           | FY2006 | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| LEED Certification (# of LEED certified buildings) | 1      | 1      | 1      | 1      | 2      | 2      | 4      | 5      | 6      | 7      | 12     | 12     | 14     | 15     | 16     |
| LEED Certification (% of all buildings)            | 0      | 0      | 0      | 0      | 1      | 1      | 1      | 1      | 2      | 2      | 3      | 3      | 4      | 4      | 4      |
| Enrollment Data (sustainability related)           | 16,334 | 12,221 | 13,576 | 14,241 | 18,888 | 19,598 | 19,696 | 21,642 | 21,814 | 21,726 | 21,726 | 36,970 | 54,412 | 54,962 | 53,868 |
| Courses Offered (sustainability related)           | 393    | 488    | 570    | 488    | 339    | 644    | 525    | 575    | 654    | 635    | 677    | 714    | 883    | 830    | 879    |
| Enrollment per Course (sustainability related)     | 42     | 25     | 24     | 29     | 56     | 30     | 38     | 38     | 33     | 34     | 32     | 52     | 62     | 66     | 61     |

| Population                         | FY2006 | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Total Ann Arbor Student Enrollment | 39,993 | 40,025 | 41,042 | 41,028 | 41,674 | 41,924 | 42,716 | 43,426 | 43,710 | 43,625 | 43,651 | 44,718 | 46,002 | 46,716 | 48,090 |
| Ann Arbor Campus Staff             | 22,739 | 23,016 | 23,316 | 23,909 | 24,639 | 24,900 | 24,845 | 25,139 | 25,448 | 25,757 | 26,255 | 27,066 | 27,595 | 28,498 | 29,326 |
| UM Hospital Staff                  | 12,398 | 13,110 | 13,728 | 14,237 | 14,214 | 14,704 | 15,514 | 16,721 | 16,829 | 17,546 | 18,045 | 18,821 | 20,091 | 20,621 | 21,112 |
| Total Campus Population            | 75,130 | 76,151 | 78,086 | 79,174 | 80,527 | 81,528 | 83,075 | 85,286 | 85,987 | 86,928 | 87,951 | 90,605 | 93,688 | 95,835 | 98,528 |