

H D M - 4

Work Programme Unconstrained by Section

HIGHWAY DEVELOPMENT & MANAGEMENT Study Name: **Highway_2020**

Run Date: **09-12-2020**

Currency: **US Dollar (millions)**

Section	Road Class	Length (km)	AADT Surface Class	Year Work Description	NPV/CAP	Financial Costs	Cumulative Costs
M-1 148.3 - 152.6	Highway	4.3	3211 Bituminous	2025 Surface dressing	1.542	0.661	0.661
	Highway	4.3	4944 Bituminous	2036 Surface dressing	1.542	0.661	1.321
M-1 156.7 - 161.2	Highway	4.5	1442 Bituminous	2023 Surface dressing	0.054	0.691	2.013
	Highway	4.5	2134 Bituminous	2033 Surface dressing	0.054	0.691	2.704
	Highway	4.5	2220 Bituminous	2034 Overlay 50mm at IRI 5	0.054	1.395	4.099
	Highway	12.5	1082 Bituminous	2022 Overlay 50mm at IRI 5	0.014	3.876	7.975
M-1 161.2 - 173.7	Highway	12.5	1602 Bituminous	2032 Surface dressing	0.014	1.921	9.895
	Highway	12.5	1666 Bituminous	2033 Overlay 50mm at IRI 5	0.014	3.876	13.771
	Highway	11.0	2021 Bituminous	2022 Surface dressing	0.608	1.466	15.237
M-10 113.0 - 124.0	Highway	11.0	2459 Bituminous	2027 Overlay 50mm at IRI 5	0.608	2.958	18.195
	Highway	11.0	3937 Bituminous	2039 Surface dressing	0.608	1.466	19.661
	Highway	7.5	7993 Bituminous	2025 Surface dressing	7.374	0.999	20.660
M-10 17.0 - 24.5	Highway	7.5	12797 Bituminous	2037 Surface dressing	7.374	0.999	21.660
	Highway	7.5	7750 Bituminous	2024 Surface dressing	6.843	0.999	22.659
M-10 57.0 - 64.5	Highway	7.5	12408 Bituminous	2036 Surface dressing	6.843	0.999	23.659
	Highway	10.2	4118 Bituminous	2022 Overlay 50mm at IRI 5	0.218	2.743	26.402
M-10 66.0 - 76.2	Highway	10.2	6096 Bituminous	2032 Surface dressing	0.218	1.359	27.761
	Highway	10.2	6594 Bituminous	2034 Overlay 50mm at IRI 5	0.218	2.743	30.504
	Highway	11.8	4118 Bituminous	2022 Overlay 50mm at IRI 5	0.358	3.173	33.677
M-10 76.2 - 88.0	Highway	11.8	5636 Bituminous	2030 Overlay 50mm at IRI 5	0.358	3.173	36.851
	Highway	11.8	8343 Bituminous	2040 Surface dressing	0.358	1.573	38.423

M-10 88.0 - 99.0	Highway	11.0	4118 Bituminous	2022 Overlay 50mm at IRI 5	0.250	2.958	41.382
	Highway	11.0	6096 Bituminous	2032 Surface dressing	0.250	1.466	42.847
	Highway	11.0	6340 Bituminous	2033 Overlay 50mm at IRI 5	0.250	2.958	45.806
M-10 99.0 - 113.0	Highway	14.0	3855 Bituminous	2022 Surface dressing	2.680	1.866	47.671
	Highway	14.0	4878 Bituminous	2028 Overlay 50mm at IRI 5	2.680	3.765	51.436
	Highway	14.0	7811 Bituminous	2040 Surface dressing	2.680	1.866	53.302
M-11 10.8 - 21.8	Highway	11.0	4863 Bituminous	2022 Overlay 50mm at IRI 5	0.216	3.077	56.379
	Highway	11.0	7787 Bituminous	2034 Surface dressing	0.216	1.525	57.904
M-11 21.8 - 33.0	Highway	11.2	4863 Bituminous	2022 Overlay 50mm at IRI 5	0.220	3.133	61.036
	Highway	11.2	7787 Bituminous	2034 Surface dressing	0.220	1.552	62.589
M-11 33.0 - 43.6	Highway	10.6	3561 Bituminous	2023 Surface dressing	1.171	1.469	64.058
	Highway	10.6	5701 Bituminous	2035 Surface dressing	1.171	1.469	65.527
	Highway	10.6	6413 Bituminous	2038 Overlay 50mm at IRI 5	1.171	2.965	68.492
M-11 43.6 - 56.2	Highway	12.6	2969 Bituminous	2023 Surface dressing	0.687	1.746	70.239
	Highway	12.6	4754 Bituminous	2035 Surface dressing	0.687	1.746	71.985
	Highway	12.6	6015 Bituminous	2041 Overlay 50mm at IRI 5	0.687	3.524	75.510
M-11 6.0 - 10.8	Highway	4.8	5260 Bituminous	2024 Surface dressing	2.987	0.665	76.175
	Highway	4.8	8098 Bituminous	2035 Surface dressing	2.987	0.665	76.840
M-12 0.0 - 13.6	Highway	13.6	1330 Bituminous	2022 Overlay 50mm at IRI 5	0.253	3.804	80.644
	Highway	13.6	2129 Bituminous	2034 Surface dressing	0.253	1.885	82.529
M-12 13.6 - 28.5	Highway	14.9	1383 Bituminous	2023 Surface dressing	0.065	2.065	84.595
	Highway	14.9	1618 Bituminous	2027 Overlay 50mm at IRI 5	0.065	4.168	88.762
	Highway	14.9	2591 Bituminous	2039 Surface dressing	0.065	2.065	90.828
M-14 0.0 - 8.8	Highway	8.8	1930 Bituminous	2024 Overlay 50mm at IRI 5	0.896	2.313	93.141
	Highway	8.8	2971 Bituminous	2035 Surface dressing	0.896	1.146	94.287
M-14 8.8 - 19.4	Highway	10.6	1930 Bituminous	2024 Surface dressing	0.560	1.381	95.668
	Highway	10.6	2971 Bituminous	2035 Surface dressing	0.560	1.381	97.049
M-16 24.1 - 28.2	Highway	4.1	3543 Bituminous	2022 Overlay 50mm at IRI 5	2.655	1.110	98.158
	Highway	4.1	5043 Bituminous	2031 Overlay 50mm at IRI 5	2.655	1.110	99.268
	Highway	4.1	6902 Bituminous	2039 Surface dressing	2.655	0.550	99.817
M-16 28.2 - 59.0	Highway	30.8	3760 Bituminous	2025 Surface dressing	2.962	4.130	103.948
	Highway	30.8	5789 Bituminous	2036 Surface dressing	2.962	4.130	108.078
M-16 7.0 - 24.1	Highway	17.1	3985 Bituminous	2025 Surface dressing	3.336	2.293	110.371
	Highway	17.1	6135 Bituminous	2036 Surface dressing	3.336	2.293	112.664
M-2 126.1 - 131.5	Highway	5.4	5412 Bituminous	2025 Surface dressing	7.258	0.739	113.404
	Highway	5.4	7704 Bituminous	2034 Surface dressing	7.258	0.739	114.143
M-2 131.5 - 142	Highway	10.5	4410 Bituminous	2023 Overlay 50mm at IRI 5	0.629	2.902	117.045
	Highway	10.5	6036 Bituminous	2031 Surface dressing	0.629	1.438	118.483
	Highway	10.5	6277 Bituminous	2032 Overlay 50mm at IRI 5	0.629	2.902	121.384
	Highway	10.5	8591 Bituminous	2040 Surface dressing	0.629	1.438	122.822
M-2 142 - 150.7	Highway	8.7	3979 Bituminous	2022 Overlay 50mm at IRI 5	0.650	2.404	125.226
	Highway	8.7	5034 Bituminous	2028 Overlay 50mm at IRI 5	0.650	2.404	127.630
	Highway	8.7	6890 Bituminous	2036 Surface dressing	0.650	1.191	128.822

M-2 174.1 - 187.3	Highway	13.2	4286 Bituminous	2024 Surface dressing	3.440	1.808	130.629
	Highway	13.2	6344 Bituminous	2034 Surface dressing	3.440	1.808	132.437
	Highway	13.2	7137 Bituminous	2037 Overlay 50mm at IRI 5	3.440	3.648	136.085
M-2 187.3 - 196	Highway	8.7	4121 Bituminous	2023 Surface dressing	0.078	1.191	137.276
	Highway	8.7	4821 Bituminous	2027 Overlay 50mm at IRI 5	0.078	2.404	139.680
	Highway	8.7	7137 Bituminous	2037 Surface dressing	0.078	1.191	140.872
M-2 202.2 - 213.4	Highway	11.2	4045 Bituminous	2023 Surface dressing	5.546	1.534	142.405
	Highway	11.2	5535 Bituminous	2031 Overlay 50mm at IRI 5	5.546	3.095	145.500
	Highway	11.2	7879 Bituminous	2040 Surface dressing	5.546	1.534	147.034
M-2 213.4 - 227.9	Highway	14.5	4375 Bituminous	2025 Surface dressing	5.251	1.986	149.020
	Highway	14.5	6476 Bituminous	2035 Surface dressing	5.251	1.986	151.005
M-2 227.9 - 246.7	Highway	18.8	4324 Bituminous	2022 Overlay 50mm at IRI 5	0.585	5.195	156.201
	Highway	18.8	5918 Bituminous	2030 Surface dressing	0.585	2.574	158.775
	Highway	18.8	6656 Bituminous	2033 Overlay 50mm at IRI 5	0.585	5.195	163.970
	Highway	18.8	9110 Bituminous	2041 Surface dressing	0.585	2.574	166.545
M-2 246.7 - 254	Highway	7.3	4497 Bituminous	2023 Surface dressing	0.053	1.000	167.544
	Highway	7.3	5690 Bituminous	2029 Overlay 50mm at IRI 5	0.053	2.017	169.562
	Highway	7.3	8423 Bituminous	2039 Surface dressing	0.053	1.000	170.561
M-2 277 - 284.4	Highway	7.4	4324 Bituminous	2022 Overlay 50mm at IRI 5	0.583	2.045	172.606
	Highway	7.4	5918 Bituminous	2030 Surface dressing	0.583	1.013	173.620
	Highway	7.4	6400 Bituminous	2032 Overlay 50mm at IRI 5	0.583	2.045	175.664
	Highway	7.4	8760 Bituminous	2040 Surface dressing	0.583	1.013	176.678
M-2 289.1 - 299	Highway	9.9	4756 Bituminous	2022 Overlay 50mm at IRI 5	0.702	2.736	179.414
	Highway	9.9	6510 Bituminous	2030 Surface dressing	0.702	1.356	180.769
	Highway	9.9	7615 Bituminous	2034 Overlay 50mm at IRI 5	0.702	2.736	183.505
M-2 308 - 320.1	Highway	12.1	5489 Bituminous	2022 Overlay 50mm at IRI 5	0.902	3.344	186.849
	Highway	12.1	7512 Bituminous	2030 Surface dressing	0.902	1.657	188.506
	Highway	12.1	8788 Bituminous	2034 Overlay 50mm at IRI 5	0.902	3.344	191.849
M-2 320.1 - 337	Highway	16.9	4073 Bituminous	2022 Overlay 50mm at IRI 5	0.648	4.670	196.520
	Highway	16.9	5360 Bituminous	2029 Overlay 50mm at IRI 5	0.648	4.670	201.190
	Highway	16.9	7335 Bituminous	2037 Surface dressing	0.648	2.314	203.504
M-2 337 - 348.6	Highway	11.6	3513 Bituminous	2022 Overlay 50mm at IRI 5	0.366	3.206	206.710
	Highway	11.6	4109 Bituminous	2026 Overlay 50mm at IRI 5	0.366	3.206	209.915
	Highway	11.6	5849 Bituminous	2035 Surface dressing	0.366	1.589	211.504
	Highway	11.6	7401 Bituminous	2041 Overlay 50mm at IRI 5	0.366	3.206	214.709
M-2 348.6 - 364	Highway	15.4	3653 Bituminous	2023 Surface dressing	4.258	2.109	216.818
	Highway	15.4	4445 Bituminous	2028 Overlay 50mm at IRI 5	4.258	4.256	221.074
	Highway	15.4	6579 Bituminous	2038 Surface dressing	4.258	2.109	223.183
M-2 47.3 - 53.1	Highway	5.8	9261 Bituminous	2022 Overlay 50mm at IRI 5	1.767	1.603	224.785
	Highway	5.8	13182 Bituminous	2031 Overlay 50mm at IRI 5	1.767	1.603	226.388
	Highway	5.8	18040 Bituminous	2039 Surface dressing	1.767	0.794	227.182
M-2 65.4 - 82	Highway	16.6	5321 Bituminous	2024 Surface dressing	5.988	2.273	229.456
	Highway	16.6	7877 Bituminous	2034 Surface dressing	5.988	2.273	231.729

M-2 91.6 - 98	Highway	6.4	4920 Bituminous	2022 Overlay 50mm at IRI 5	0.884	1.769	233.497
	Highway	6.4	6474 Bituminous	2029 Overlay 50mm at IRI 5	0.884	1.769	235.266
	Highway	6.4	8861 Bituminous	2037 Surface dressing	0.884	0.876	236.142
M-2L 28.9 - 36.2	Highway	7.3	9250 Bituminous	2022 Overlay 50mm at IRI 5	1.238	2.214	238.356
	Highway	7.3	12660 Bituminous	2030 Surface dressing	1.238	1.097	239.454
	Highway	7.3	16019 Bituminous	2036 Overlay 50mm at IRI 5	1.238	2.214	241.668
M-2L 36.2 - 47.3	Highway	11.1	7257 Bituminous	2022 Overlay 50mm at IRI 5	0.790	3.367	245.034
	Highway	11.1	10742 Bituminous	2032 Surface dressing	0.790	1.668	246.703
	Highway	11.1	13593 Bituminous	2038 Overlay 50mm at IRI 5	0.790	3.367	250.069
M-2R 28.9 - 37.8	Highway	8.9	9250 Bituminous	2022 Surface dressing	0.251	1.338	251.407
	Highway	8.9	12173 Bituminous	2029 Overlay 50mm at IRI 5	0.251	2.699	254.106
	Highway	8.9	19490 Bituminous	2041 Surface dressing	0.251	1.338	255.444
M-2R 37.8 - 47.3	Highway	9.5	7257 Bituminous	2022 Overlay 50mm at IRI 5	0.837	2.881	258.325
	Highway	9.5	10742 Bituminous	2032 Surface dressing	0.837	1.428	259.753
	Highway	9.5	13070 Bituminous	2037 Overlay 50mm at IRI 5	0.837	2.881	262.635
M-3 10.5 - 17.9	Highway	7.4	9361 Bituminous	2022 Overlay 50mm at IRI 5	1.016	2.329	264.964
	Highway	7.4	14411 Bituminous	2033 Surface dressing	1.016	1.154	266.118
	Highway	7.4	19722 Bituminous	2041 Surface dressing	1.016	1.154	267.272
M-3 105.0 - 112.9	Highway	7.9	8827 Bituminous	2024 Surface dressing	6.414	1.232	268.504
	Highway	7.9	14133 Bituminous	2036 Surface dressing	6.414	1.232	269.737
M-3 116.9 - 127.9	Highway	11.0	8161 Bituminous	2022 Overlay 50mm at IRI 5	0.886	3.462	273.199
	Highway	11.0	13589 Bituminous	2035 Surface dressing	0.886	1.716	274.915
M-3 21.5 - 33.8	Highway	12.3	7206 Bituminous	2022 Overlay 50mm at IRI 5	0.516	3.872	278.786
	Highway	12.3	11999 Bituminous	2035 Surface dressing	0.516	1.919	280.705
M-3 33.8 - 45.3	Highway	11.5	9054 Bituminous	2023 Overlay 50mm at IRI 5	0.840	3.620	284.325
	Highway	11.5	14495 Bituminous	2035 Surface dressing	0.840	1.794	286.118
M-3 75.5 - 94.2	Highway	18.7	9193 Bituminous	2025 Surface dressing	9.176	2.917	289.035
	Highway	18.7	14718 Bituminous	2037 Surface dressing	9.176	2.917	291.952
M-4 108.5 - 118	Highway	9.5	4998 Bituminous	2025 Surface dressing	4.608	1.453	293.405
	Highway	9.5	7398 Bituminous	2035 Surface dressing	4.608	1.453	294.858
M-4 118.0 - 128.0	Highway	10.0	5027 Bituminous	2025 Surface dressing	4.616	1.530	296.388
	Highway	10.0	7441 Bituminous	2035 Surface dressing	4.616	1.530	297.918
M-4 134.0 - 144.1	Highway	10.1	4946 Bituminous	2025 Surface dressing	4.484	1.545	299.463
	Highway	10.1	7322 Bituminous	2035 Surface dressing	4.484	1.545	301.008
M-4 144.1 - 148.2	Highway	4.1	4397 Bituminous	2022 Overlay 50mm at IRI 5	0.449	1.266	302.273
	Highway	4.1	6018 Bituminous	2030 Overlay 50mm at IRI 5	0.449	1.266	303.539
	Highway	4.1	8236 Bituminous	2038 Surface dressing	0.449	0.627	304.166
M-4 73.3 - 83.2	Highway	9.9	6217 Bituminous	2025 Surface dressing	4.846	1.514	305.681
	Highway	9.9	9953 Bituminous	2037 Surface dressing	4.846	1.514	307.195
M-4 91.2 - 96.2	Highway	5.0	5047 Bituminous	2022 Overlay 50mm at IRI 5	0.349	1.543	308.739
	Highway	5.0	7472 Bituminous	2032 Surface dressing	0.349	0.765	309.503
	Highway	5.0	10225 Bituminous	2040 Surface dressing	0.349	0.765	310.268
M-4 96.4 - 108.5	Highway	12.1	5384 Bituminous	2025 Surface dressing	5.097	1.851	312.119

M-4L 10.3 - 27.0	Highway	12.1	7970 Bituminous	2035 Surface dressing	5.097	1.851	313.970
	Highway	16.7	13985 Bituminous	2024 Overlay 50mm at IRI 5	1.655	5.026	318.996
M-4L 35.5 - 48.0	Highway	16.7	20702 Bituminous	2034 Surface dressing	1.655	2.490	321.486
	Highway	12.5	7666 Bituminous	2024 Surface dressing	4.259	1.864	323.351
	Highway	12.5	12273 Bituminous	2036 Surface dressing	4.259	1.864	325.215
M-4L 48.0 - 61.0	Highway	12.5	12764 Bituminous	2037 Overlay 50mm at IRI 5	4.259	3.762	328.976
	Highway	13.0	6021 Bituminous	2025 Surface dressing	6.268	1.939	330.915
	Highway	13.0	9269 Bituminous	2036 Surface dressing	6.268	1.939	332.854
M-4L 61.0 - 73.3	Highway	12.3	4927 Bituminous	2025 Surface dressing	4.438	1.834	334.688
	Highway	12.3	7585 Bituminous	2036 Surface dressing	4.438	1.834	336.523
M-4R 12.7 - 26.0	Highway	13.3	12930 Bituminous	2022 Surface dressing	0.735	1.966	338.488
	Highway	13.3	17015 Bituminous	2029 Overlay 50mm at IRI 5	0.735	3.967	342.455
	Highway	13.3	26194 Bituminous	2040 Surface dressing	0.735	1.966	344.421
M-4R 32.6 - 45.0	Highway	12.4	8854 Bituminous	2025 Surface dressing	8.561	1.833	346.253
	Highway	12.4	14176 Bituminous	2037 Surface dressing	8.561	1.833	348.086
M-4R 45.0 - 59.4	Highway	14.4	6891 Bituminous	2025 Surface dressing	5.507	2.128	350.214
	Highway	14.4	11032 Bituminous	2037 Surface dressing	5.507	2.128	352.342
M-4R 59.4 - 73.3	Highway	13.9	4927 Bituminous	2025 Surface dressing	3.850	2.054	354.397
	Highway	13.9	7585 Bituminous	2036 Surface dressing	3.850	2.054	356.451
M-5 52.0 - 59.0	Highway	7.0	2274 Bituminous	2024 Overlay 50mm at IRI 5	1.402	1.665	358.116
	Highway	7.0	3501 Bituminous	2035 Surface dressing	1.402	0.825	358.942
M-5 59.0 - 63.1	Highway	4.1	1873 Bituminous	2022 Olerlay 40mm+60mm at IR	1.412	1.091	360.033
	Highway	4.1	3119 Bituminous	2035 Surface dressing	1.412	0.483	360.516
M-5L 44.1 - 52.0	Highway	7.9	4399 Bituminous	2025 Surface dressing	2.936	1.127	361.643
	Highway	7.9	7043 Bituminous	2037 Surface dressing	2.936	1.127	362.770
M-5R 44.1 - 52.0	Highway	7.9	4399 Bituminous	2025 Surface dressing	2.481	1.157	363.927
	Highway	7.9	7043 Bituminous	2037 Surface dressing	2.481	1.157	365.084
M-6 0.0 - 20.0	Highway	20.0	2642 Bituminous	2025 Surface dressing	0.924	2.983	368.066
	Highway	20.0	4068 Bituminous	2036 Surface dressing	0.924	2.983	371.049
M-6 20.0 - 38.45	Highway	18.5	2642 Bituminous	2025 Surface dressing	0.894	2.751	373.801
	Highway	18.5	4068 Bituminous	2036 Surface dressing	0.894	2.751	376.552
M-7 19.0 - 30.5	Highway	11.5	3102 Bituminous	2024 Surface dressing	0.875	1.740	378.292
	Highway	11.5	4967 Bituminous	2036 Surface dressing	0.875	1.740	380.032
M-7 36.0 - 42.8	Highway	6.8	2287 Bituminous	2025 Surface dressing	0.514	1.029	381.061
	Highway	6.8	3521 Bituminous	2036 Surface dressing	0.514	1.029	382.090
	Highway	6.8	4284 Bituminous	2041 Overlay 50mm at IRI 5	0.514	2.076	384.166
M-8 10.5 - 13.2	Highway	20.3	1909 Bituminous	2024 Overlay 50mm at IRI 5	0.625	6.089	390.254
	Highway	20.3	2939 Bituminous	2035 Surface dressing	0.625	3.017	393.272
M-8 13.2 - 33.5	Highway	20.3	1975 Bituminous	2026 Surface dressing	0.692	3.017	396.289
	Highway	20.3	3040 Bituminous	2037 Surface dressing	0.692	3.017	399.306
M-9 14.6 - 25.4	Highway	10.8	1337 Bituminous	2024 Surface dressing	0.184	1.371	400.677
	Highway	10.8	1903 Bituminous	2033 Overlay 50mm at IRI 5	0.184	2.766	403.443
M-9 25.4 - 41.4	Highway	16.0	1075 Bituminous	2022 Overlay 50mm at IRI 5	0.007	4.098	407.541

M-9 3.6 - 14.6	Highway	16.0	1655 Bituminous	2033 Surface dressing	0.007	2.031	409.572
	Highway	16.0	1721 Bituminous	2034 Overlay 50mm at IRI 5	0.007	4.098	413.669
	Highway	11.0	1717 Bituminous	2024 Overlay 50mm at IRI 5	0.840	2.817	416.487
	Highway	11.0	2350 Bituminous	2032 Surface dressing	0.840	1.396	417.883
M-9 41.4 - 53.8	Highway	11.0	3216 Bituminous	2040 Surface dressing	0.840	1.396	419.279
	Highway	12.4	799 Bituminous	2022 Olerlay 40mm+60mm at IR	0.028	3.553	422.832
	Highway	12.4	1439 Bituminous	2037 Surface dressing	0.028	1.574	424.406