APPENDIX 4: TYPICAL PAVEMENT M&R SCHEDULES FOR CALIFORNIA

The following pavement M&R schedules are the consolidation of the "Pavement M&R Decision Trees" (used for activity scheduling) included in Caltrans districts' ten-year pavement plans. Currently, each Caltrans district has its own set of pavement decision trees, most of which have different sequences of pavement M&R activities, depending on route class (alternatively known as maintenance service level) and pavement type. The following compilation of California-specific pavement M&R schedules has been developed to simplify the selection of a pavement M&R schedule for the LCCA.

The categorization of these California-specific pavement M&R schedules was based on four factors: the climate region, maintenance service level, existing pavement type/final surface type, and project type/initial M&R strategy (i.e., project alternative). The nine climate regions shown in Figure A4-1 are grouped into the five climate regions (i.e., All Coastal, Inland Valley, High Mountain & High Desert, Desert, and Low Mountain & South Mountain), and the pavement M&R decisions applicable to these five climate regions are collected from the district offices.

If a pavement decision tree for a particular pavement type was not available for a particular climate region, a similar decision tree from another region was utilized. For pavement decision trees for products with limited to no examples available in California (such as continuously reinforced concrete pavement), information from national sources and other states with similar climates/products was used.

Remaining Service Life (RSL)

When doing a widening project with a RSL alternative that is different from the values in the M&R Schedules, the life of the initial activity must be adjusted to reflect the difference in pavement design life. So for example, if a widening project has a RSL alternative of 25 years, and the service life of the initial activity in the M&R schedule for a 20-year pavement design life is 23 years, then the initial activity period that should be entered into *RealCost* should be 28 years (23 + 5 from difference in remaining life of existing pavement to theoretical 20-year pavement.)

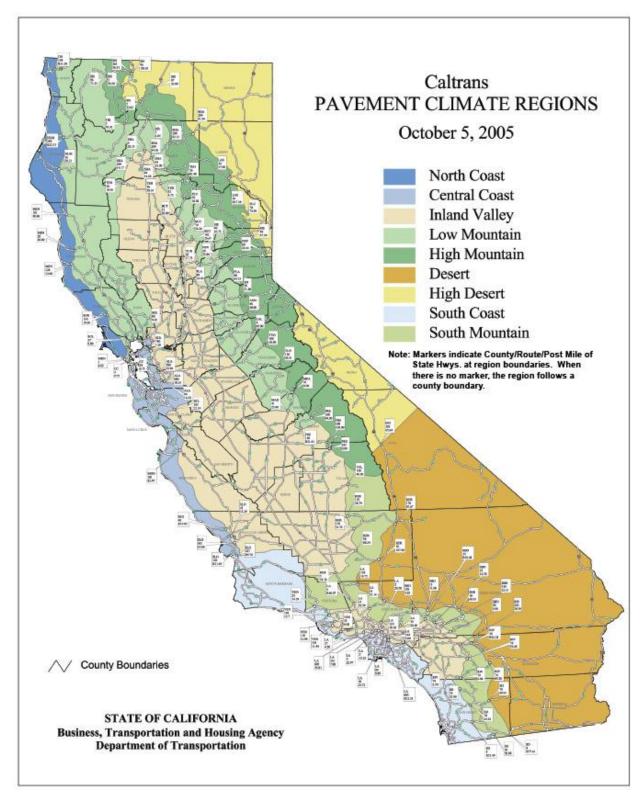


Figure A4-1: Map of Caltrans Climate Regions (This map can be found at Pavement Climate Regions Map (PDF))

TABLE F-1 (a) **All Coastal Climate Regions** HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Final Pvmt Begin Alternative 30 40 15 20 25 35 45 50 Year 10 55 Surface Design Service Construction Life Type Level New Construction/Reconstruction 25 Year of Action 0 50 CAPM Rehab HMA CAPM Rehab HMA New/ Activity Description HMA (20 yr) HMA Reconstruct (20 yr)1,2 Activity Annual Maint. Cost 1,100 Service Life (\$/lane-mile) over 20 3,300 1,100 20 2,900 20 2,900 (years) Activity Service Life HMA 20 Year of Action 40 0 20 30 45 New/ CAPM CAPM CAPM Rehab HMA Activity Description Reconstruct HMA HMA HMA (20 yr)Annual Maint. Cost Activity 20 10 (\$/lane-mile) over 3,300 10 6,100 6,100 1,100 20 2,900 Service Life Activity Service Life (years) CAPM Year of Action 25 30 **CAPM** Rehab HMA Rehab HMA Activity Description CAPM HMA CAPM HMA HMA (20 yr) (20 yr)1,2 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 1,100 20 2,900 5 1,100 20 2,900 1,100 Activity Service Life (years) HMA 5+ Year of Action 10 30 35 **CAPM** CAPM CAPM Rehab HMA Activity Description HMAHMA HMA (20 yr)Annual Maint. Cost Activity 10 10 Service Life (\$/lane-mile) over 6,200 6,100 1,100 20 2,900 Activity Service Life (years) Rehabilitation Year of Action 25 0 20 45 50 CAPM Rehab HMA Rehab HMA Rehab HMA CAPM Activity Description (20 yr)HMA (20 yr)HMA (20 yr)HMA 20 1,2,3 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 20 2,900 1,100 20 2,900 1,100 20 2,900 Activity Service Life (years)

| | | | | ŀ | OT MIX ASPI | HALT W/ OGF | All Coast | BLE F-1 (b) al Climate Re MAINTENAN | | ABILITATI | ON SCHEDULE | | | | |
|------------------------------|------------------|----------------------------|--|-----------------------------------|-------------|------------------------------|-----------|---|-------------------------------|-----------------------------|------------------------------------|-------------------------------|-------------------|------------------------------------|--------------------------------|
| Final Surface Type New Const | Pvmt Design Life | Maint. Service Level | Year | Begin Alternative Construction | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| | | 1,2 | Year of Action Activity Description Activity Annual Maint. Cost | | | | | | 22 CAPM HMA w/ OGFC | | 32 Rehab HMA w/ OGFC (20 yr) | | | | 54 CAPM HMA w/ OGFC |
| | 20 | | Service Life (\$/lane-mile) over (years) Activity Service Life Year of Action Activity Description | 0 New/ | _ | | | | 10 3,700 22 CAPM HMA w/ | | 22 3,600 32 CAPM HMA w | | 42 CAPM HMA w/ | - | 10 3,700 52 Rehab HMA w/ |
| HMA w/ | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 22 2,300 | | | | | OGFC 10 3,700 | | OGFC 10 6,800 | | OGFC 10 6,800 | _ | OGFC (20 yr) 22 3,600 |
| OGFC | | 1,2 | Year of Action Activity Description Activity Annual Maint. Cost | 0 New/ Reconstruct | | | | | | | | 40 CAPM HMA w/ OGFC | | 50 Rehab HMA w/ OGFC (20-yr) | |
| | 40 | | Service Life (\$/lane-mile) over (years) Activity Service Life Year of Action Activity Description | 40 5,200 0 New/ | _ | | | | | | | 10 3,700 40 CAPM HMA w/ | _ | 22 2,300 50 CAPM HMA w/ | |
| | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 40 5,200 | | | | | | | | OGFC 10 3,700 | | OGFC 10 3,700 | |
| CAPM | | l | | | | | | | | | | | | | |
| | | | Year of Action Activity Description | CAPM HMA W | <u>'</u> | Rehab HMA w/ OGFC (20 yr) | _ | | | CAPM HMA | | Rehab HMA w/ OGFC (20 yr) | - | | |
| HMA w/ | 5+ | 1,2 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 10 3,700 | | 22 2,300 | | | | 10 4,00 | 0 | 22 3,200 | | | |
| OGFC | | 3 | Year of Action Activity Description | 0 CAPM HMA w | / | 10 CAPM HMA w/ OGFC | | 20 CAPM HMA w/ OGFC | | 30 Rehab HMA OGFC (20 | w/ yr) | | | 52 CAPM HMA w/ OGFC | |
| | | | Activity Annual Maint. Cost Service Life (\$/\text{kane-mile}) over (years) Activity Service Life | 10 3,700 | | 10 6,800 | | 10 6,800 | | 22 3,60 | 0 | | | 10 3,700 | |
| Rehabilitat | On | | Year of Action | 0 | _ | | | | 22 | | 32 | | | | 54 |
| | | | Activity Description | Rehab HMA w OGFC (20 yr) | | | | | CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC |
| HMA w/ | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 22 2,300 | | | | | 10 4,000 | | 22 3,200 | | | | 10 4,000 |
| OGFC | | | Year of Action | 0 Rehab HMA w | - | | | | | | | 40 CAPM HMA w/ | - | 50 Rehab HMA w/ | - I |
| | | | Activity Description | OGFC (40 yr) | | | | | | | | OGFC | _ | OGFC (40 yr) | <u> </u> |
| | 40 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 40 5,700 | | | | | | | | 10 3,700 | | 40 5,700 | |

| | | | | НО | T MIX ASPHA | ALT W/ RHMA | All Coast | BLE F-1 (c) al Climate Re MAINTENAN | gions CE AND REH/ | ABILITATION | SCHEDULE | | | | |
|--------------------|------------------|----------------------------|--|-----------------------------------|-------------|------------------------------|-----------|---|----------------------|------------------------------|------------------------------|------------------------------|-------------|------------------------|---------------------|
| Final Surface Type | Pvmt Design Life | Maint. Service Level | Year | Begin Alternative Construction | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| New Consti | uction/Re | econstruc | Year of Action | 0 | | | | | 23 | | 33 | | | | |
| | | | | New/ | | | | | CAPM HMA w/ | | Rehab HMA w/ | 1 | | | |
| | | | Activity Description | Reconstruct | | | | | RHMA | | RHMA (20 yr) | | | | |
| | 20 | 1,2 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 23 2,700 | | | | | 10 3,500 | | 23 3,500 | | | | |
| | 20 | | Year of Action | 0 | | | | | 23 | | 33 | | 43 | | 53 |
| | | | Activity Description | New/ | | | | | CAPM HMA w/ | | CAPM HMA w/ | | CAPM HMA w/ | | Rehab HMA w/ |
| | | | Tienvay Beserption | Reconstruct | | | | | RHMA | | RHMA | | RHMA | | RHMA (20 yr) |
| HMA w/ | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 23 2,700 | | | | | 10 3,500 | | 10 6,500 | | 10 6,500 | | 23 3,500 |
| RHMA | | | Year of Action | 0 | | | | | | | | 40 | | 50 | |
| | | | Activity Description | New/ | | | | | | | | CAPM HMA w/ | | Rehab HMA w/ | |
| | | 1,2 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over | 40 4,000 | | | | | | | | 10 3,500 | | RHMA (20 yr) 23 2,700 | |
| | | | (years) Activity Service Life | | | | | | | | | | | | |
| | 40 | | Year of Action | 0 | | | | | | | | 40 | | 50 | |
| | | | Activity Description | New/ | | | | | | | | CAPM HMA w/ | | CAPM HMA w/ | |
| | | | Activity Description | Reconstruct | | | | | | | | RHMA | | RHMA | _ |
| | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 40 4,000 | | | | | | | | 10 3,500 | | 10 3,500 | |
| CAPM | | | | | | | | | | | | | _ | | |
| | | | Year of Action | 0 | | 10 | | | | 33 | | 43 | | | |
| | | 1,2 | Activity Description | CAPM HMA w/ RHMA | | Rehab HMA w/ RHMA (20 yr) | | | | CAPM HMA w/ RHMA | | Rehab HMA w/ RHMA (20 yr) | | | |
| HMA w/ | | 1,2 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 10 3,500 | | 23 3,500 | | | | 10 3,500 | | 23 3,500 | | | |
| RHMA | 5+ | | Year of Action | 0 | | 10 | | 20 | | 30 | 1 | 1 1 | 1 | | 53 |
| | | 3 | Activity Description | CAPM HMA w/ RHMA | | CAPM HMA w/ RHMA | | CAPM HMA w/ RHMA | | Rehab HMA w/ RHMA (20 yr) | | | | | CAPM HMA w/ RHMA |
| | | | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 10 3,500 | | 10 7,600 | | 10 7,600 | | 23 3,500 | | | | | 23 3,500 |
| Rehabilitati | on | | | | | | | | | | | | | | |
| |] | | Year of Action | 0 | | | | | 23 | | 33 | | | | |
| | | | Activity Description | Rehab HMA w/ RHMA (20 yr) | | | | | CAPM HMA w/ RHMA | | Rehab HMA w/ RHMA (20 yr) | | | | |
| HMA w/ | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 23 3,500 | | | | | 10 3,500 | | 23 3,500 | | | | |
| RHMA | | | Year of Action | 0 | | | | | | • | | 40 | | 50 | |
| | | | Activity Description | Rehab HMA w/ | | | | | | | | CAPM HMA w/ | | Rehab HMA w/ |] |
| | 40 | 1,2,3 | Activity Annual Maint. Cost | RHMA (40 yr) | | | | | | | | RHMA | - | RHMA (40 yr) | |
| | | | Service Life (\$/lane-mile) over (years) Activity Service Life | 40 4,800 | | | | | | | | 10 3,500 | | 40 4,800 | |

| | | | | | | RUB | BERIZED HO | T MIX / | ASPHA | All Coas | tal Cl | | gions | | HAE | BILITATIO | ON SC | CHEDULE | : | | | | | |
|--------------------------|------------|----------------------------|-------------------------------------|--|----|---------------------------|------------|---------|--------------------|----------|--------|--------------------|-------|--------------|-----|---------------------------|-------|--------------|----|---|--------------|----|--------------|-----------------------|
| Final Surface Type | Life | Maint. Service Level | | Year | | n Alternative onstruction | 5 | 1 | .0 | 15 | | 20 | | 25 | | 30 | | 35 | 40 | | 45 | | 50 | 55 |
| New Constr | ruction/Re | constru | | 2 | | _ | | | | | | | | | 1 | | 1 | | | | | 1 | | |
| | | | Ye | ar of Action | | 0 | | | | | | | | 22 | | 28 | 1 | | | | | | 50 | |
| | | | Activ | ity Description | | New/ econstruct | | | | | | | | CAPM RHMA | | hab RHMA (20 yr) | | | | | | | CAPM RHMA | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 2,200 | | | | | | | 6 | 900 | 22 | 2,500 | | | | | | 6 | 900 | |
| RHMA | 20 | | Ye | ar of Action | | 0 | | | | | | | | 22 | | <u> </u> | | 32 | | | 42 | | | 51 |
| | | | | ity Description | | New/ | | | | | | | | CAPM RHMA | | | | CAPM RHMA | | | CAPM RHMA | | | Rehab RHMA (20 yr) |
| | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 2,200 | | | | | | | 10 | 4,100 | | | 10 | 4,000 | | 9 | 4,400 | | | 22 2,500 |
| CAPM | <u> </u> | | | | | | | | | | | | | | | | | | | | 1 | | | |
| | | | | ar of Action ity Description | | 0 CAPM RHMA | | Rehab | 6 RHMA) yr) | | | 28 CAPM RHMA | | | | 34 hab RHMA (20 yr) | _ | | | | | | | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 6 | 900 | | | 2,500 | | 6 | 900 | | | 22 | 2,500 | - | | | | | | | |
| RHMA | 5+ | | Ye | ar of Action | | 0 | | 1 | .0 | | | 20 | | | | 29 | | | | | | | 51 | |
| | | | | ity Description | | CAPM RHMA | | CA | APM MA | | | CAPM RHMA | | | | hab RHMA (20 yr) | - | | | | | | CAPM RHMA | |
| | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 10 | 4,000 | | 10 | 4,100 | | 9 | 4,400 | | | 22 | 2,500 | | | | | | 10 | 4,000 | |
| Rehabilitati | on | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Ye | ar of Action | | 0 | | | | | | 22 | | | | 28 | | | | | | | 50 | |
| | | | Activ | ity Description | | nab RHMA (20 yr) | | | | | 1 | CAPM RHMA | | | | hab RHMA (20 yr) | | | | | | | CAPM RHMA | |
| RHMA | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 2,500 | | | | | 6 | 900 | | | 22 | 2,900 | | | | | | 6 | 900 | |

| | | | | | | | | All Coast | | te Re | | | | | | | | | | |
|--------------------------------|------------------|----------------------------|--|-----------------------------------|-------------|-----------|------|------------------------------|----------|-------|------------------------------|------------|---------------------------------------|------|--------------------|---------------------|-----|------------------------|-------|---------------------|
| | | | | RUBBERIZ | ZED HOT MIX | K ASPHALT | TW/R | HMA-O PA | AVEMENT | MAI | NTENANCE AN | ID REHABIL | LITATION SCH | EDUL | _E | | | | | |
| Final Surface Type New Constru | Pvmt Design Life | Maint. Service Level | Year | Begin Alternative Construction | 5 | 10 | | 15 | 20 | | 25 | 30 | 35 | | 40 | 45 | | 50 | | 55 |
| New Consti | iction/ Ke | econstruc | Year of Action Activity Description | 0 New/ Reconstruct | | | | | | - | 24 CAPM RHMA w/ RHMA-O | | 35 Rehab RHMA w/ RHMA-O (20 yr) | | | | | | | |
| | | 1,2 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 24 2,700 | | | | | | | 3,100 | | 24 1,900 | | | | | | | |
| | 20 | | Year of Action | 0 | | | | | | | 24 | | 35 | | | | | 46 | | |
| | | | Activity Description | New/ Reconstruct | | | | | | | CAPM RHMA w/ RHMA-O | | CAPM RHMA w/ RHMA-O | | | | | CAPM RHMA w/ RHMA-O | | |
| RHMA w/ | | 3 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 24 2,700 | | | | | | _ | 11 3,100 | | 11 7,000 | | | | | 11 7,000 | | |
| RHMA-O | | | Year of Action | 0 | | | | | | | | | | | 40 | | • | | | 51 |
| | | | Activity Description | New/ Reconstruct | | | | | | | | | | | M RHMA w/ HMA-O | | | | | b RHMA w/ HMA-O |
| | | 1,2 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 3,800 | | | | | | | | | | 11 | 3,100 | | | | 24 | 1,900 |
| | 40 | | Year of Action | 0 | <u> </u> | | | | | | | | | | 40 | | | | - | 51 |
| | | | Activity Description | New/ Reconstruct | | | | | | | | | | | M RHMA w/ HMA-O | | | | | M RHMA w/ .HMA-O |
| | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 40 3,800 | | | | | | | | | | 11 | 3,100 | | | | 11 | 7,000 |
| CAPM | | | | | | | | | | | | | | | | | | | | |
| CATIVI | I | | Year of Action | 0 | | | | 11 | | | | | 35 | | | 46 | | | | |
| | | 1,2 | Activity Description | CAPM RHMA w/ RHMA-O | | | | hab RHMA w/ IMA-O (20 yr) | | | | | CAPM RHMA w/ RHMA-O | | | Rehab RHI RHMA-O | | | | |
| RHMA w/ | 5+ | 1,2 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 11 3,800 | | | 24 | 1,900 | | | | | 11 3,800 | | | 24 1, | 900 | | | |
| RHMA-O | 5+ | | Year of Action | 0 | | | | 11 | | | 22 | | 33 | | | | | | | |
| | | 3 | Activity Description | CAPM RHMA w/ RHMA-O | ļ | | | PM RHMA w/ RHMA-O | <u>'</u> | - | CAPM RHMA w/ RHMA-O | | Rehab RHMA w/ RHMA-O (20 yr) | | | | | | | |
| | | 3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 11 3,800 | | | 11 | 7,000 | | | 11 7,000 | | 24 1,900 | | | | | | | |
| Rehabilitatio | n | | | | | | • | • | • | | | | | | | | | | | |
| | | | Year of Action | 0 Rehab RHMA w/ | 1 | | | | | } | 24 CAPM RHMA w/ | | 35 Rehab RHMA w/ | 1 | | | | | | |
| | | | Activity Description | RHMA-O (20 yr) | Ţ | | | | | ļ | RHMA-O | | RHMA-O (20 yr) | | | | | | | |
| RHMA w/ | 20 | 1,2,3 | Activity Service Life (\$/lane-mile) over Activity Service Life | 24 1,900 | | | | | | | 11 3,300 | | 24 1,900 | | | | | | | |
| RHMA-O | | | Year of Action | 0 Rehab RHMA w/ | 1 | | | | | | | | | CADA | 40 M RHMA w/ | | | | Rehai | 51 b RHMA w/ |
| | | | Activity Description | RHMA-O (40 yr) | ļ | | | | | | | | | | HMA-O | | | | | 1A-O (40 yr) |
| | 40 | 1,2,3 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 5,000 | | | | | | | | | | 11 | 3,300 | | | | 40 | 5,000 |

TABLE F-2 (a) Inland Valley Climate Region HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE

| | | | | | | TIOT WILK A | ASPHALI PAV | LIVILIVI WAII | TILIMANUL A | ND KLIIABILI | TATION SCIL | LDOLL | | | | | | |
|--------------------------|------------------|----------------------------|--|---|-----------------------------------|----------------------|-------------|---------------|-------------|----------------------|----------------------|-------|-------------|----|--------------------|-----|--------------------|----|
| Final Surface Type | Pvmt Design Life | Maint. Service Level | | ear | Begin Alternative Construction | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | | 45 | | 50 | 55 |
| New Const | ruction/Re | construc | | | | | | | | | | | | , | | | | |
| | | | Year o | of Action | 0 | | | | 18 | 23 | _ | | | | 41 | | 46 | |
| | | | Activity I | Description | New/ Reconstruct | | | | CAPM HMA | Rehab HMA (20 yr) | | | | | CAPM HMA | | hab HMA (20 yr) | |
| НМА | 20 | 1,2 | Service Life (\$\frac{1}{2}\) (years) Ac | nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 18 3,600 | | | | 5 1,100 | 18 2,700 | | | | 5 | 1,100 | 18 | 2,700 | |
| 111/111 | | | Year o | of Action | 0 | | | | 18 | | 27 | | 36 | | 43 | | | |
| | | | Activity I | Description | New/ Reconstruct | | | | CAPM HMA | | CAPM HMA | | CAPM HMA | | hab HMA (20 yr) | | | |
| | | 3 | Service Life (\$ | nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 18 3,600 | | | | 9 5,600 | | 9 4900 | | 7 5,700 | 18 | 2,700 | | | |
| CAPM | | | | | | | , | | | | | | | 1 | | | | |
| | | | Year o | of Action | 0 | 5 | _ | | | 23 | 28 | | | | 46 | | 51 | |
| | | 1,2 | Activity I | Description | CAPM HMA | Rehab HMA (20 yr) | | | | CAPM HMA | Rehab HMA (20 yr) | | | | CAPM HMA | | hab HMA (20 yr) | |
| | | 1,2 | Service Life (\$ | nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 5 1,100 | 18 2,700 | | | | 5 1,100 | 18 2,700 | | | 5 | 1,100 | 18 | 2,700 | |
| HMA | 5+ | | Year o | of Action | 0 | | 9 | | 18 | 25 | | | 43 | | | | 52 | |
| | | 2 | Activity [| Description | CAPM HMA | | CAPM HMA | | CAPM HMA | Rehab HMA (20 yr) | | | CAPM HMA | | | | CAPM HMA | |
| | | 3 | Service Life (\$ | nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 9 5,600 | | 9 5,100 | | 7 5,700 | 18 2,700 | | | 9 5,600 | | | 9 | 5,100 | |
| Rehabilitat | ion | | | | | | | | | | | | | | | | | |
| | | | | of Action | 0 Rehab HMA | | | | 18 CAPM | 23 Rehab HMA | | | | | 41 CAPM | Rei | 46 hab HMA | |
| | | | Activity L | Description | (20 yr) | | | | НМА | (20 yr) | | | | | HMA | | (20 yr) | |
| HMA | 20 | 1,2,3 | Service Life (\$ | nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 18 2,700 | | | | 5 1,100 | 18 2,700 | | | | 5 | 1,100 | 18 | 2,700 | |

TABLE F-2 (b) Inland Valley Climate Region HOT MIX ASPHALT W/ OGFC PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE

| | | | | | | | | | | - | | | | |
|----------------------|----------------|------------------|---|--|-------------------------------|-----|--|-------------|--|-----|--------------------------------|-----|--|----|
| Final | Pvmt | Maint. | | Begin Alternative | | 1.5 | 20 | 2.5 | 20 | 2.5 | 40 | 4.5 | 50 | |
| Surface Type | Design Life | Service Level | Year | Construction | 5 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| New Constr | | | tion | | | | | | | | | | | |
| ivew constr | Luction/ICC | Construc | Year of Action | 0 | | | 20 | | 28 | | | | 48 | |
| | | | | New/ | | | CAPM HMA w/ | , | Rehab HMA w/ | | | | CAPM HMA w/ | |
| | | | Activity Description | Reconstruct | | | OGFC | | OGFC (20 yr) | | | | OGFC | |
| | | 1,2 | | | | | | | | | | | | |
| | | | Activity Annual Maint. Cost | 2 700 | | | 1 4 400 | | 20 2 000 | | | | 4 400 | |
| | | | Service Life (\$/lane-mile) over (years) Activity Service Life | 20 2,700 | | | 8 4,400 | | 20 3,600 | | | | 8 4,400 | |
| | 20 | | (years) Activity Service Life | | | | | | | | | | | |
| | 20 | | Year of Action | 0 | | | 20 | | 30 | | 40 | | 50 | |
| | | | Activity Description | New/ | | | CAPM HMA w/ | | CAPM HMA w/ | | CAPM HMA w/ | | Rehab HMA w/ | |
| | | | 7 1 | Reconstruct | | | OGFC | | OGFC | - | OGFC | | OGFC (20 yr) | |
| | | 3 | Activity Annual Maint. Cost | | | | | | | | | | | |
| | | | Service Life (\$/lane-mile) over | 20 2,700 | | | 10 3,700 | | 10 6,800 | | 10 6,800 | | 20 3,600 | |
| | | | (years) Activity Service Life | | | | | | | | | | | |
| HMA w/ | | | Year of Action | 0 | | | | | | | 38 | | 48 | |
| OGFC | | | | New/ | | | | | | | CAPM HMA w/ | | Rehab HMA w/ | |
| | | | Activity Description | Reconstruct | | | | | | | OGFC | | OGFC (20-yr) | |
| | | 1,2 | | | | | | | | Ī | | | | |
| | | 1,2 | Activity Annual Maint. Cost | | | | | | | | | | | |
| | | | Service Life (\$/lane-mile) over (years) Activity Service Life | 38 6,400 | | | | | | | 10 3,400 | | 20 3,600 | |
| | | | (years) Activity Service Life | | | | | | | | | | | |
| | 40 | | Year of Action | 0 | | | | | | | 38 | | 48 | |
| | | | Activity Description | New/ | | | | | | | CAPM HMA w/ | | CAPM HMA w/ | |
| | | | 7 Kettyky Description | Reconstruct | | | | | | | OGFC | | OGFC | |
| | | 3 | | | | | | | | | | | | |
| | | | Activity Annual Maint. Cost Service Life (\$/lane-mile) over | 38 6,400 | | | | | | | 10 3,400 | | 10 3,400 | |
| | | | (years) Activity Service Life | 0,100 | | | | | | | 3,400 | | 3,100 | |
| | | | | | | | | | | | | | | |
| CAPM | | T | | | | 1 | | | | | | 1 | | |
| | | | Year of Action | 0 | 8 | | | 28 | <u> </u> | | 36 | | | |
| | | | A - stir ite - D | CAPM HMA w/ | Rehab HMA w | / | | CAPM HMA w/ | | | Rehab HMA w/ | | | |
| | | | Activity Description | OGFC | OGFC (20 yr) | | | OGFC | | | OGFC (20 yr) | | | |
| | | 1,2 | | | (-) / | | | 00.0 | | | OGI C (20 yi) | | | |
| | | 1,2 | | | | | | 00.0 | + | - | | | | |
| | | 1,2 | Activity Annual Maint. Cost | | | | | | | | | | | |
| | | 1,2 | Service Life (\$/lane-mile) over | 8 4,400 | 20 5,600 | | | 8 4,400 | | - | 20 5,600 | | | |
| HMA w/ | | 1,2 | | 8 4,400 | | | | | | | | | | |
| HMA w/ OGFC | 5+ | 1,2 | Service Life (\$/lane-mile) over Activity Service Life | 8 4,400 | 20 5,600 | | 20 | | 30 | | | | 50 | |
| | 5+ | 1,2 | Service Life (\$/lane-mile) over | 0 | 20 5,600 | | 20 | | 30 | | | | 50 CADM I MA/ | |
| | 5+ | 1,2 | Service Life (\$/lane-mile) over Activity Service Life | 0 CAPM HMA w/ | 20 5,600 10 CAPM HMA w | 11 | CAPM HMA w/ | | Rehab HMA w/ | | | | CAPM HMA w/ | |
| | 5+ | | Service Life (\$/lane-mile) over (years) Activity Service Life Year of Action | 0 | 20 5,600 | 11 | | | | • | | | | |
| | 5+ | 3 | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description | 0 CAPM HMA w/ | 20 5,600 10 CAPM HMA w | 7/ | CAPM HMA w/ | | Rehab HMA w/ | • | | | CAPM HMA w/ | |
| | 5+ | | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Annual Maint. Cost | 0 CAPM HMA w/ | 20 5,600 10 CAPM HMA w | // | CAPM HMA w/ | | Rehab HMA w/ | • | | | CAPM HMA w/ | |
| | 5+ | | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Annual Maint. Cost | 0 CAPM HMA w/ OGFC | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC | |
| OGFC | | | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (\$/lane-mile) over (\$/lane-mile | 0 CAPM HMA w/ OGFC | 20 5,600 10 CAPM HMA w OGFC | 7/ | CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC | |
| | | | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (\$/lane-mile) over Activity Service Life | 0 CAPM HMA w/ OGFC 10 3,700 | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 | | | | CAPM HMA w/ OGFC | |
| OGFC | | | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action | 0 CAPM HMA w/ OGFC 10 3,700 | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 | | Rehab HMA w/ OGFC (20 yr) 20 3,600 | | | | CAPM HMA w/ OGFC 10 3,700 | |
| OGFC | | | Service Life (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (\$/lane-mile) over Activity Service Life | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 20 CAPM HMA w/ | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ | | | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ | |
| OGFC | on | 3 | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action | 0 CAPM HMA w/ OGFC 10 3,700 | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 | | Rehab HMA w/ OGFC (20 yr) 20 3,600 | | | | CAPM HMA w/ OGFC 10 3,700 | |
| OGFC | | | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Annual Maint. Cost | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 20 CAPM HMA w/ | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ | | | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ | |
| OGFC | on | 3 | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (\$/lane-mile) over (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/lane-mile) over (\$/lane-mile) over | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 20 CAPM HMA w/ | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ | | | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ | |
| OGFC Rehabilitati | on | 3 | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Annual Maint. Cost | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC | |
| OGFC Rehabilitati | on | 3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (\$/lane-mile) over Activity Service Life | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 | |
| OGFC Rehabilitati | on | 3 | Service Life (years) (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (years) Year of Action Activity Description Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (years) Year of Action | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC | |
| OGFC Rehabilitati | on | 3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life (\$/lane-mile) over Activity Service Life | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 | 20 5,600 10 CAPM HMA w OGFC | 1/ | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 | |
| OGFC Rehabilitati | on | 1,2,3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Description | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 Rehab HMA w/ | 20 5,600 10 CAPM HMA w OGFC | // | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 38 CAPM HMA w/ | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 46 Rehab HMA w/ | |
| OGFC Rehabilitati | 20 | 3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Service Life (\$/\text{lane-mile}) over Activity Service Life Year of Action Activity Description Activity Description | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 Rehab HMA w/ OGFC (40 yr) | 20 5,600 10 CAPM HMA w OGFC | // | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 38 CAPM HMA w/ OGFC | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 46 Rehab HMA w/ OGFC (40 yr) | |
| OGFC Rehabilitati | 20 | 1,2,3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Service Life (s/lane-mile) over (s/lane-mile) over Activity Service Life Year of Action Activity Description Activity Description Activity Description Activity Service Life (s/lane-mile) over (s/lane-mile) over Activity Service Life Year of Action Activity Service Life Year of Action Activity Description Activity Description Activity Description Activity Description Activity Service Life (s/lane-mile) over (s/lane-mile) | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 Rehab HMA w/ | 20 5,600 10 CAPM HMA w OGFC | // | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 38 CAPM HMA w/ | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 46 Rehab HMA w/ | |
| OGFC Rehabilitati | 20 | 1,2,3 | Service Life (years) Service Life (years) Year of Action Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Description Activity Description Activity Description Activity Service Life (\$/\text{lane-mile}) over Activity Service Life (years) Year of Action Activity Service Life (\$/\text{lane-mile}) over Activity Service Life Year of Action Activity Description Activity Description | 0 CAPM HMA w/ OGFC 10 3,700 Rehab HMA w/ OGFC (20 yr) 20 5,600 Rehab HMA w/ OGFC (40 yr) | 20 5,600 10 CAPM HMA w OGFC | // | CAPM HMA w/ OGFC 10 6,800 CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) 20 3,600 28 Rehab HMA w/ OGFC (20 yr) | | 20 5,600 38 CAPM HMA w/ OGFC | | CAPM HMA w/ OGFC 10 3,700 48 CAPM HMA w/ OGFC 8 4,400 46 Rehab HMA w/ OGFC (40 yr) | |

| | | | | н | OT MIX ASPH | ALT W/ R | Inland | TABLE I d Valley Cli ENT MAIN | imate R | egion CE AND REHA | BILIT | ATION S | CHEDULE | | | | | | |
|-------------------------------|------------------|----------------------------|---|---|-------------|----------------------|--------|-------------------------------------|--------------------------------|---------------------------------------|------------|-------------------------------------|--|-------|--------------------------------|---------------------------------------|----------|---|--|
| Final Surface Type New Constr | Pvmt Design Life | Maint. Service Level | Year | Begin Alternative Construction | 5 | 10 | 15 | | 20 | 25 | 3 | 30 | 35 | | 40 | 45 | | 50 | 55 |
| | | 1,2 | Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life | 0 New/ Reconstruct 21 3,000 | | | | | | 21 CAPM HMA w/ RHMA 10 3,700 | | | 31 Rehab HMA w/ RHMA (20 yr) 21 2,000 | | | | | | 52 CAPM HMA w/ RHMA 10 3,700 |
| HMA w/ | 20 | 3 | Activity Description Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 0 New/ Reconstruct 21 3,000 | | | | | | 21 CAPM HMA w/ RHMA 10 3,700 | | | 31 CAPM HMA w/ RHMA 10 6,800 | | | 41 CAPM HMA w/ RHMA 10 6,800 | | | 51 Rehab HMA w/ RHMA (20 yr) 21 2,000 |
| RHMA | | 1,2 | Activity Description Activity Description Activity Annual Maint. Cost (\$/lane-mile) over (years) Activity Service Life | 0 New/ Reconstruct 40 7,200 | | | | | | | | 1 | | CAPM | 40 4 HMA w/ HMA 3,700 | | | 50 ab HMA w/ MA (20 yr) 3,400 | |
| | 40 | 3 | Activity Description Activity Description Activity Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 0 New/ Reconstruct 40 7,200 | | | | | | | | | | CAPM | 40 4 HMA w/ HMA 3,700 | | | 50 M HMA w/ RHMA 3,700 | |
| CAPM | | | | | | | | | | | | | | | | | <u> </u> | | |
| | | 1,2 | Activity Description Activity Description Activity Service Life (\$/lane-mile) over | 0 CAPM HMA w RHMA 10 3,700 | | Rehab HM RHMA (20 | yr) | | | | CAPM RH | HMA w/ HMA 3,700 | | Rehab | 3,400 | | | | |
| HMA w/ RHMA | 5+ | 3 | (years) Activity Service Life Year of Action Activity Description Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 0 CAPM HMA ward RHMA 10 3,700 | | 10 CAPM HM RHMA | | CAPM | 20 I HMA w/ HMA 6,800 | | Rehab | 30 HMA w/ \(\lambda\) (20 yr) | | | | | | 51 M HMA w/ RHMA 3,700 | |
| Rehabilitati | on | | | | | | | | | | | | | | | | | | |
| HMA w/ | 20 | 1,2,3 | Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life | 0 Rehab HMA w/ RHMA (20 yr) 21 3,400 | | | | | | 21 CAPM HMA w/ RHMA 10 3,700 | | | 31 Rehab HMA w/ RHMA (20 yr) 21 3,400 | | | | | | 52 CAPM HMA w/ RHMA 10 3,700 |
| RHMA | 40 | 1,2,3 | Year of Action Activity Description Activity Service Life (\$/lane-mile) over Activity Service Life | 0 Rehab HMA w/RHMA (40 yr) 40 7,000 | | | | | | | | , | · | CAPN | 40 4 HMA w/ HMA 3,700 | | | 50 lib HMA w/ MA (40 yr) 7,000 | |

TABLE F-2 (d) **Inland Valley Climate Region** RUBBERIZED HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Final Pvmt Begin Alternative Design Service Year 5 10 15 20 25 30 35 40 45 50 55 Surface Construction New Construction/Reconstruction Year of Action 0 21 26 47 52 CAPM Rehab RHMA CAPM Rehab RHMA New/ Activity Description Reconstruct RHMA (20 yr)RHMA (20 yr)1,2 Activity Annual Maint. Cost (\$/lane-mile) over 21 2,200 1,100 21 2,600 1,100 21 2,600 Service Life (years) Activity Service Life RHMA 20 Year of Action 0 21 30 39 47 CAPM CAPM CAPM Rehab RHMA New/ Activity Description RHMA RHMA RHMA (20 yr)Reconstruct Annual Maint. Cost Activity 21 21 Service Life (\$/lane-mile) over 2,200 4,400 4,400 5,100 2,600 Activity Service Life (years) CAPM Year of Action 0 5 26 31 52 **CAPM** Rehab RHMA CAPM Rehab RHMA CAPM Activity Description RHMA (20 yr)RHMA RHMA (20 yr)1,2 Activity Annual Maint. Cost 21 2,600 5 1,100 21 2,600 5 1,100 Service Life (\$/lane-mile) over 1,100 Activity Service Life (years) RHMA 5+ Year of Action 0 9 18 23 44 53 Rehab RHMA **CAPM** CAPM CAPM CAPM CAPM Activity Description RHMA RHMA RHMA (20 yr)RHMA RHMA 3 Activity Annual Maint. Cost 5 (\$/lane-mile) over 9 4,400 4,400 5,100 21 2,600 4,400 4,400 Service Life Activity Service Life (years) Rehabilitation Year of Action 0 21 26 47 52 Rehab RHMA CAPM Rehab RHMA CAPM Rehab RHMA Activity Description RHMA RHMA (20 yr)(20 yr)(20 yr)1,2,3 RHMA 20 Annual Maint. Cost Activity 21 21 21 Service Life (\$/lane-mile) over 2,600 1,100 2,600 1,100 2,600 (years) Activity Service Life

| | | | | | R | UBBERIZ | ZED HOT MIX | ASPHALT V | Inland V | ABLE F-2 (e) /alley Climate AVEMENT MA | Region | AND REHABIL | ITATION SCH | IEDULE | | | | |
|-------------------------------|------------------|----------------------------|-------------------------------------|--|----------|--|-------------|------------------------------|----------|--|------------------------|---------------------------------|---------------------------------|-----------------|--------|---------------------------------|---------------------------------|---------------------------------|
| Final Surface Type New Constr | Pvmt Design Life | Maint. Service Level | | Year | _ | in Alternative onstruction | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |) | 45 | 50 | 55 |
| New Constr | uction/Re | construc | | ar of Action | T | 0 | | | | | 22 | | 32 | T | | | | 54 |
| | | | Ye | ar of Action | - | 0 | - | | | | 22 | | | 4 | | | | |
| | | | Activ | ity Description | Re | New/ econstruct | | | | | CAPM RHMA w/ RHMA-O | | Rehab RHMA w/ RHMA-O (20 yr) | | | | | CAPM RHMA w/ RHMA-O |
| | 20 | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 2,900 | | | | | 10 3,700 | | 22 3,800 | | | | | 10 3,700 |
| | | | Ye | ar of Action | | 0 | | | | | 22 | | 32 | | | 42 | | 53 |
| | | | Activ | ity Description | Re | New/ econstruct | | | | | CAPM RHMA w/ RHMA-O | | CAPM RHMA w/ RHMA-O | | | CAPM RHMA w/ RHMA-O | | Rehab RHMA w/ RHMA-O (20 yr) |
| RHMA w/ | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 2,900 | | | | | 10 3,400 | | 10 6,300 | | | 11 6,300 | | 22 3,800 |
| RHMA-O | | | Ye | ar of Action | | 2900 | | | | | | | | 40 |) | | 50 | |
| | | | Activ | ity Description | Re | New/ econstruct |] | | | | | | | CAPM RI RHM. | | | Rehab RHMA war | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 4,900 | | | | | | | | 10 | 3,700 | | 22 3,800 | |
| | 40 | | 37 | | - | | | | | | | | | 1 | , | | 70 | |
| | | | | ar of Action ity Description | \vdash | 0 New/ | 1 | | | | | | | CAPM RI | HMA w/ | | 50 CAPM RHMA w | 1/ |
| | | 3 | Acuv | ку Везеприон | Re | econstruct | _ | | | | | | | RHM | A-O | | RHMA-O | _ |
| | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 4,900 | | | | | | | | 10 | 3,400 | | 10 3,400 | |
| CAPM | | | | | | | | | | | | | | | | | | |
| | | | Ye | ar of Action | | 0 | | 10 | | | | 32 | | | | 42 | | |
| | | | | ity Description | | M RHMA w/ RHMA-O | | Rehab RHMA v RHMA-O (20 y | | | | CAPM RHMA w/ RHMA-O | , | | | Rehab RHMA w/ RHMA-O (20 yr) | - | |
| | | 1,2 | Activity Service Life | Annual Maint. Cost (\$/lane-mile) over | 10 | 3,400 | - | 22 3,800 | | | | 10 3,400 | | | | 22 3,800 | _ | |
| RHMA w/ | 5+ | | (years) | Activity Service Life | | | | | | | | | | | | | | |
| RHMA-O | | | Ye | ar of Action | | 0 | | 10 | | 20 | _ | 30 | | | | | 52 | _ |
| | | 3 | Activ | ity Description | | M RHMA w/ RHMA-O | | CAPM RHMA RHMA-O | w/ | CAPM RHMA w RHMA-O | | Rehab RHMA w/ RHMA-O (20 yr) | | | | | CAPM RHMA w RHMA-O | r/ |
| | | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 10 | 3,400 | | 10 3,400 | | 10 3,400 | | 22 3,800 | | | | | 10 3,400 | |
| Rehabilitati | on | | | | | 1 | | | | | | | | | | | | |
| Kenabilitati | VII | | V- | ar of Action | T | 0 | | | | | 22 | | 32 | T | | | | 54 |
| | | | | ity Description | | b RHMA w/ //A-O (20 yr) | | | | | CAPM RHMA w/ RHMA-O | - | Rehab RHMA w/ RHMA-O (20 yr) | 1 | | | | CAPM RHMA w/ RHMA-O |
| | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 22 | 3,800 | - | | | | 10 3,700 | | 22 3,800 | | | | | 10 3,700 |
| RHMA w/ | | | | | 1 | <u> </u> | | | | | | | | 1 | | | T . | |
| RHMA-O | 1 | | Ye | ar of Action | ├ | 0 | 4 | | | | | | | 40 | | | 50 | _ I |
| | 1 | | Activ | ity Description | | ab RHMA w/ // // // // // // // // // // // // // | | | | | | | | CAPM RI RHM. | | | Rehab RHMA w/ RHMA-O (40 yr) | |
| 1 | 40 | 1,2,3 | A (2.2) | 111111111111111111111111111111111111111 | KHN | 1A-O (40 yr) | - | | | | | | | KHM | A-U | | KIIVIA-0 (40 yr) | Ή Ι |
| | | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 5,100 | | | | | | | | 10 | 3,700 | | 40 5,100 | |

TABLE F-3 (a) **Desert Climate Region** HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Final Pvmt Maint. Begin Alternative 5 10 15 20 25 30 35 40 45 50 Surface Design Service 55 Year Construction Type Life New Construction/Reconstruction Year of Action 0 18 23 41 46 CAPM Rehab HMA CAPM Rehab HMA New/ Activity Description (20 yr) (20 yr)Reconstruct HMA HMA1,2 Annual Maint. Cost Service Life (\$/lane-mile) over 18 3,600 5 1,100 18 3,000 1,100 18 3,000 Activity Service Life (years) HMA 20 25 Year of Action 18 31 37 CAPM CAPM CAPM Rehab HMA New/ Activity Description HMA HMA (20 yr) Reconstruct HMA 3 Annual Maint. Cost Activity (\$/lane-mile) over 18 18 Service Life 3,600 7 5,700 5,700 6 6,800 3,000 (years) Activity Service Life CAPM 5 23 28 51 Year of Action 0 46 **CAPM** Rehab HMA CAPM Rehab HMA CAPM Rehab HMA Activity Description HMA(20 yr)HMA (20 yr) HMA (20 yr) 1,2 Annual Maint. Cost Activity (\$/lane-mile) over 1,100 18 3,000 1,100 18 3,000 1,100 18 3,000 Service Life Activity Service Life (years) HMA 5+ Year of Action 14 20 38 52 **CAPM** CAPM CAPM Rehab HMA CAPM CAPM CAPM Activity Description **HMA** HMA HMA (20 yr)HMA HMA HMA Annual Maint. Cost Activity (\$/lane-mile) over 5,700 5,500 6 6,800 18 3,000 5,700 5,500 6,800 Service Life Activity Service Life (years) Rehabilitation Year of Action 0 18 23 41 46 Rehab HMA CAPM Rehab HMA CAPM Rehab HMA Activity Description (20 yr)(20 yr)HMA (20 yr)HMA HMA 20 1,2,3 Annual Maint. Cost Activity (\$/lane-mile) over 18 3,000 5 18 3,000 18 3,000 Service Life 1,100 1,100 Activity Service Life (years)

| | | | | | HO1 | Γ MIX ASPHA | ALT W/ OGFC | Desert | Clim | F-3 (b) ate Regi | | ABIL | ITATION : | SCHEDULE | | | | | | |
|-------------------------------|------------------|----------------------|--|--|-----------------------------------|-------------|------------------------------|--------|------|------------------------|---------------------|------|--------------------------------|----------|----|-------------------------|-----------------|----|---------------------------|----|
| Final Surface Type New Consti | Pvmt Design Life | Maint. Service Level | Yea | r | Begin Alternative Construction | 5 | 10 | 15 | | 20 | 25 | | 30 | 35 | | 40 | 45 | | 50 | 55 |
| | | | Year of A | Action | 0 | | | | | 20 | | | 28 | | | | | | 48 | |
| | | | Activity De | scription | New/ Reconstruct | | | | | M HMA w/ DGFC | | | ab HMA w/ FC (20 yr) | | | | | CA | PM HMA w/ OGFC | |
| | 20 | 1,2 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 20 4,900 | | | | 8 | 4,600 | | 20 | 4,000 | | | | | 8 | 4,500 | |
| | 20 | | Year of A | Action | 0 | | | | | 20 | | | 29 | | | 38 | | | 47 | |
| | | | Activity De | scription | New/ Reconstruct | | | | | M HMA w/ DGFC | | 1 | PM HMA w/ OGFC | | | M HMA w/ OGFC | | | hab HMA w/ GFC (20 yr) | |
| HMA w/ | | 3 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 20 4,900 | | | | 9 | 4,000 | | 9 | 7,400 | | 9 | 7,400 | | 20 | 4,000 | |
| OGFC | | | Year of A | Action | 0 | | | | | | | | | | | 38 | | | 47 | |
| | | | Activity De | scription | New/ Reconstruct | | | | | | | | | | | M HMA w/ OGFC | | | hab HMA w/ GFC (20-yr) | |
| | | 1,2 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 38 6,700 | | | | | | | | | | 9 | 4,100 | | 20 | 4,000 | |
| | 40 | | Year of A | Action | 0 | | | | | | | | | | + | 38 | | | 47 | |
| | | | Activity De | | New/ | | | | | | | | | | | M HMA w/ | | CA | PM HMA w/ | |
| | | 3 | Activity Annu Service Life (\$/1 | ual Maint. Cost ane-mile) over vity Service Life | 38 6,700 | | | | | | | | | | 8 | 4,100 | | 9 | 7,400 | |
| | | | (years) Treat | They berview Ene | | | | | | | | | | | | | | | | |
| CAPM | | | • | | | | | | | | | | | | | | | | • | |
| | | | Year of A | Action | 0 | | 8 | | | | 28 | | | | | 36 | | | | |
| | | | Activity De | scription | CAPM HMA w/ OGFC | | Rehab HMA w/ OGFC (20 yr) | | | | CAPM HMA w/ OGFC | | | | | ab HMA w/ FC (20 yr) | | | | |
| HMA w/ | 5. | 1,2 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 8 4,600 | | 20 4,000 | | | | 8 4,600 | | | | 20 | 4,000 | | | | |
| OGFC | 5+ | | Year of A | Action | 0 | | 9 | | | 18 | | | 27 | | | | 47 | | | |
| | | 3 | Activity De | scription | CAPM HMA w/ OGFC | | CAPM HMA w/ OGFC | | | M HMA w/ OGFC | | | ab HMA w/ BFC (20 yr) | | | | CAPM HM OGFC | | | |
| | | 3 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 9 4,000 | | 9 7,400 | | 9 | 7,400 | | 20 | 4,000 | | | | 9 4,0 | 00 | | |
| Rehabilitati | ion | | | | | | | | | | | | | | | | | | | |
| | | | Year of Activity De | | 0 Rehab HMA w/ OGFC (20 yr) | | | | | 20 M HMA w/ OGFC | | | 28 ab HMA w/ GFC (20 yr) | | | | | CA | 48 PM HMA w/ OGFC | |
| HMA w/ | 20 | 1,2,3 | Service Life (\$/la | ual Maint. Cost ane-mile) over vity Service Life | 20 4,000 | | | | 8 | 4,600 | | 20 | 4,000 | | | | | 8 | 7,300 | |
| OGFC | | | Year of A | Action | 0 | | | | | | | | | | | 38 | | | 46 | |
| | | | Activity De | | Rehab HMA w/ | | | | | | | | | | | M HMA w/ | | | hab HMA w/ | |
| | 40 | 1,2,3 | Activity Annu Service Life (\$/\frac{1}{2} | ual Maint. Cost ane-mile) over vity Service Life | OGFC (40 yr) 38 7,300 | | | | | | | | | | 8 | 4,600 | | 38 | 7,300 | |

| | | | | | | но | T MIX ASPHA | ALT V | W/ RHMA | | esert Cli | E F-3 (c) mate Reg | ion | ND REHA | ABIL | ITATION | SCH | EDULE | | | | | | | | |
|--------------------|------------------|----------------------------|-------------------------------------|--|--|---------------------------|-------------|-------|------------------|----|-----------|-----------------------|----------|-----------------|------|-------------------------|-----|----------|------|----------------|----------|----------|-------|-----------------|-------|-----------|
| Final Surface Type | Pvmt Design Life | Maint. Service Level | tion | Year | | n Alternative onstruction | 5 | | 10 | 15 | | 20 | | 25 | | 30 | | 35 | | 40 | | 45 | | 50 | | 55 |
| New Consti | uction/Re | Construc | | ar of Action | I | 0 | | | | | | | | 21 | | 30 | | | | | | | | T | | 51 |
| | | | 1 6 | ai oi Action | | New/ | | | | | | | | I HMA w/ | Dobo | ab HMA w/ | | | | | | | | - | | I HMA w/ |
| | | | Activ | ity Description | 1 | construct | | | | | | | 1 | HMA | | MA (20 yr) | | | | | | | | | | HMA |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 21 | 5,400 | | | | | | | 9 | 4,000 | 21 | 3,700 | | | | | | | | | 9 | 5,400 |
| | 20 | | Ye | ar of Action | i ' | 0 | | | | | | | | 21 | | | | 31 | | | | 41 | | | | 51 |
| | | | Antin | it. Decembries | | New/ | | | | | | | CAPM | // HMA w/ | | | CAP | M HMA w/ | | | CAP | M HMA w/ | | | Rehab | HMA w/ |
| | | | Activ | ity Description | Re | construct | | | | | | | R | HMA | | | I | RHMA | | | I | RHMA | | | RHM | A (20 yr) |
| HMA w/ | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 21 | 3,300 | | | | | | | 10 | 3,700 | | | 10 | 7,900 | | | 10 | 7,900 | | | 21 | 3,700 |
| RHMA | | | Ye | ar of Action | <u> </u> | 0 | | | | | | | | | | | | | | 40 | <u> </u> | | | 49 | | |
| | | | Activ | ity Description | 1 | New/ | | | | | | | | | | | | | | M HMA w/ |] | ŀ | | HMA w/ | | |
| | | | renv | ку Безеприоп | Re | construct | | | | | | | | | | | | | I | RHMA | 1 | _ | RHM | IA (20-yr) | | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 5,400 | | | | | | | | | | | | | 9 | 4,000 | | | 21 | 4,300 | | |
| | 40 | | Ye | ar of Action | † ' | 0 | | | | | | | | | | | | | | 40 | | | | 49 | | |
| | | | Activ | ity Description | | New/ | | | | | | | | | | | | | | M HMA w/ | 1 | | | // HMA w/ | | |
| | | | Activ | ity Description | Re | construct | | | | | | | | | | | | | I | RHMA | | _ | R | HMA | | |
| | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 5,400 | | | | | | | | | | | | | 9 | 4,000 | | | 9 | 4,000 | | |
| CAPM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Ye | ar of Action | CAR | 0 PM HMA w/ | | Paha | 9 ab HMA w/ | - | | | | | CAD | 30 PM HMA w/ | | | Paha | 39 b HMA w/ | | | | | | |
| | | 1,2 | | ity Description | | RHMA | | | MA (20 yr) | - | | | | · | | RHMA | | · | | 1A (20 yr) | | | | | | |
| HMA w/ | 5+ | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 9 | 4,100 | | 21 | 3,700 | | | | | | 9 | 4,100 | | | 21 | 3,700 | | | | | | |
| RHMA | | | Ye | ar of Action | | 0 | | | 10 | | | 20 | | | | 30 | | | | | | | | 51 | | |
| | | 3 | Activ | ity Description | | M HMA w/ RHMA | | | M HMA w/ RHMA | | CA | APM HMA w/ RHMA | | | | ab HMA w/ MA (20 yr) | | | | | | | | И НМА w/ НМА | | |
| | | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 10 | 3,700 | | 10 | 7,900 | | 10 | 7,900 | | | 21 | 3,700 | | | | | | | 10 | 3,700 | | |
| Rehabilitati | on | | | | | | | ш | | | | | | | | | | | | | | | | | | |
| Tenabilitati | | | Ye | ar of Action | | 0 | | | | | | | | 21 | | 30 | | | | | | | | | | 51 |
| | | | | ity Description | | ab HMA w/ MA (20 yr) | | | | | | | CAPN | M HMA w/ HMA | | ab HMA w/ MA (20 yr) | | | | | | | | | CAPM | I HMA w/ |
| HMA w/ | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 21 | 3,700 | | | | | | | 9 | 4,100 | 21 | 3,700 | | | | | | | | | 9 | 4,100 |
| RHMA | | <u> </u> | Ye | ar of Action | | 0 | | | | | | | <u> </u> | | | | | J | | 40 | | T | | 49 | 1 | |
| | | | | | Reh | ab HMA w/ | | | | | | | | | | | | ŀ | CAPI | M HMA w/ | 1 | - | Rehal | HMA w/ | | |
| | | | Activ | ity Description | | MA (40 yr) | | | | | | | | | | | | | | RHMA | | | | IA (40 yr) | | 1 |
| | 40 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 5,900 | | | | | | | | | | | | | 9 | 4,000 | | | 40 | 5,900 | | |

| | | | | | | RUB | BER | IZED HO | T MIX ASPI | HAL | Desert | BLE F-3 (d Climate Reo | gion | E AND RE | EHABILITATIO | ON SC | HEDULI | . | | | | | |
|--------------------------|------------------------|----------|-------------------------------------|--|----|---------------------------|-----|----------|--------------|-----|--------------|---------------------------|------|----------------------|--------------|-------|------------|----------|---|-----------------------|----------|--------------------|----|
| Final Surface Type | Pvmt Design Life | Level | | Year | _ | n Alternative onstruction | | 5 | 10 | | 15 | 20 | | 25 | 30 | | 35 | 40 | | 45 | | 50 | 55 |
| New Consti | ruction/R | econstru | | | | | | | | | | | | | 1 | | | | | | | | |
| | | | Ye | ear of Action | | 0 | | | | | | 20 | | 25 | | | | | | 45 | | 50 | |
| | | | Activ | rity Description | | New/ construct | | | | | | CAPM RHMA | Ro | ehab RHMA (20 yr) | | | | | | CAPM RHMA | | ab RHMA (20 yr) | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 2,500 | | | | | | 5 1,100 | 20 | 3,500 | | | | | 5 | 1,100 | 20 | 3,500 | |
| RHMA | 20 | | Ye | ear of Action | | 0 | | | | | | 20 | | • | 27 | | 34 | | | 41 | | | |
| | | | Activ | rity Description | | New/ construct | | | | | | CAPM RHMA | | | CAPM RHMA | | APM HMA | | | Rehab RHMA (20 yr) | | | |
| | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 2,500 | | | | | | 7 2,900 | | | 7 5,500 | 7 | 5,700 | | 2 | 3,500 | | | |
| CAPM | | | | | | | | | | | | | | | <u> </u> | | | | | • | <u> </u> | | |
| | | | Ye | ear of Action | | 0 | | 5 | | | | | | 25 | 30 | | | | | | | 50 | |
| | | | | vity Description | | CAPM | | nab RHMA | | | | | | CAPM | Rehab RHMA | | | | | | | CAPM | |
| | | 1,2 | | , I | I | RHMA | | (20 yr) | | | | | | RHMA | (20 yr) | | | | | | | RHMA | |
| DIDA | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 5 | 1,100 | 20 | 3,500 | | | | | 5 | 1,100 | 20 3,500 | | | | | | 5 | 1,100 | |
| RHMA | 5+ | | Ye | ear of Action | | 0 | · | | 7 | | 14 | | | 21 | 41 | | | | | 48 | | | |
| | | 3 | | rity Description | | CAPM RHMA | | | CAPM RHMA | | CAPM RHMA | | Ro | ehab RHMA (20 yr) | CAPM RHMA | | | | | CAPM RHMA | | | |
| | | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 7 | 5,500 | | | 7 5,500 | | 7 5,700 | | 20 | 3,500 | 7 5,500 | | | | 7 | 5,700 | | | |
| Rehabilitati | on | | | | | | | | | | | | | | | | | | | | | | |
| | | | Ye | ear of Action | | 0 | | | | | | 20 | | 25 | _ | | | | | 45 | \perp | 50 | |
| DIE C. | | | Activ | rity Description | | ab RHMA (20 yr) | | | | | | CAPM RHMA | Ro | ehab RHMA (20 yr) | _ | | | | | CAPM RHMA | | ab RHMA (20 yr) | |
| RHMA | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 3,500 | | | | | | 5 1,100 | 20 | 3,500 | | | | | 5 | 1,100 | 20 | 3,500 | |

| RIMA | | | | | RUBBERIZED HOT MIX | ASPHALT W | Desert | BLE F-3 (e) t Climate Reg VEMENT MAI | jion | REHABILITATION SCH | EDULE | | | |
|--|---------------|--------|---------|---|--------------------|-----------|----------|--|--------------|--------------------|----------|----------|---------------------------------|---------------------------------|
| Second S | Surface | Design | Service | Year | | 10 | 15 | 20 | 25 | 30 35 | 40 | 45 | 50 | 55 |
| Activity Activity | | | | tion | | <u> </u> | <u>'</u> | | | | | | | |
| Part | i | | | Year of Action | 0 | | | | 22 | 32 | | | | 54 |
| Accession Acce | | | 1.2 | Activity Description | | | | | | | | | | CAPM RHMA w/ RHMA-O |
| New New | | 20 | 1,2 | Service Life (\$/lane-mile) over | 22 3,100 | | | | 10 3,700 | 22 3,900 | | | | 10 3,700 |
| RIMA | ı l | | | Year of Action | | | | | | | | | | 55 |
| Final Action Process | ı l | | | Activity Description | | | | | | | ′ | | | Rehab RHMA w/ RHMA-O (20 yr) |
| Name | | | 3 | Service Life (\$/lane-mile) over | 22 3,100 | | | | | | | | | 22 3,900 |
| Activary Description | | | | Year of Action | 0 | | | | | | 40 | | 50 | |
| Activity Activity Activity Description Activity Activity Description Activity Activity Description Activity Activity | | | | Activity Description | | | | | | | | | Rehab RHMA w/ RHMA-O (20-yr) | |
| Activity Description New Activity Descriptio | | | 1,2 | Service Life (\$/lane-mile) over | 40 4,500 | | | | | | 10 3,700 | | 22 4,500 | |
| Activate Activate | ı l | 40 | | Year of Action | 0 | | | | | | 40 | | | 51 |
| Activity Activity | | | | Activity Description | | | | | | | | | | CAPM RHMA w/ RHMA-O |
| Part of Action Data Part of Action Part of | | | 3 | Service Life (\$/lane-mile) over | 40 4,500 | | | | | | 11 3,400 | | | 11 4,500 |
| Part of Action Date Date Part of Action Date | CAPM | | | | | | | | | | | | | |
| 1,2 Activity Activity Service Life Annual Maint. Cost Annual Maint. Cost Service Life Servic | | | | Year of Action | | | | | | | | | | |
| Service Life Cycles Cycl | | | 1,2 | Activity Description | | | _ | | | • | | | | |
| Name | | 5.1. | | Service Life (\$/lane-mile) over | 10 3,700 | 22 3,900 | | | | 10 3,700 | | 22 3,900 | | |
| Activity Description RHMA-O RHMA- | RHMA-O | 3+ | | Year of Action | 0 | | 11 | | 22 | 33 | | | | |
| Activity Service Life Service | | | 3 | Activity Description | | | | | | | | | | |
| Year of Action O | | | | Service Life (\$/lane-mile) over | 11 3,400 | | 11 4,500 | | 11 6,800 | 22 3,900 | | | | |
| Activity Description Rehab RHMA w/ RHMA-O (20 yr) | Rehabilitatio | on | | · | | | | | - | | | | | |
| 20 1,2,3 Activity Annual Maint. Cost (\$/lane-mile) over 22 3,900 10 3,700 22 3,900 | | | | | Rehab RHMA w/ | | | | CAPM RHMA w/ | Rehab RHMA w | | | | 54 CAPM RHMA w/ RHMA-O |
| RHMA-O Year of Action 0 40 CAPM RHMA w/ RHMA-O (40 yr) RHMA-O (40 yr) 40 1,2,3 | RHMA w/ | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over | 22 3,900 | | | | | | | | | 10 3,700 |
| Activity Description RHMA-O (40 yr) 40 1.2.3 RHMA-O | | | | Year of Action | | | | | | 1 1 | 40 | | 50 | <u> </u> |
| 40 1,2,3 RHMA-O (40 yr) | i | | | Activity Description | | | | | | | |] | Rehab RHMA w/ | |
| Activity Annual Maint. Cost Service Life (\$/lane-mile) over 40 6,100 (years) Activity Service Life 40 6,100 | | 40 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over | 40 6,100 | | | | | | | | RHMA-O (40 yr) 40 6,100 | |

TABLE F-4 (a) **Low Mountain & South Mountain Climate Regions** HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Final Pvmt Begin Alternative 10 20 30 40 45 50 55 Surface Design Service Year 15 25 35 Construction Life New Construction/Reconstruction Year of Action 0 19 24 43 48 New/ CAPM Rehab HMA CAPM Rehab HMA Activity Description HMA (20 yr) HMA Reconstruct (20 yr)1,2 Annual Maint. Cost Activity 19 (\$/lane-mile) over 3,500 19 2,800 19 2,800 Service Life 1,100 1,100 Activity Service Life (years) HMA Year of Action 28 37 45 0 19 New/ CAPM CAPM CAPM Rehab HMA Activity Description Reconstruct HMA HMA HMA (20 yr) Annual Maint. Cost (\$/lane-mile) over 19 3,500 5,700 5,700 8 5,600 19 2,800 Service Life (years) Activity Service Life CAPM Year of Action 0 5 24 29 48 53 **CAPM** Rehab HMA CAPM Rehab HMA CAPM Rehab HMA Activity Description HMA (20 yr)HMA (20 yr)(20 yr)HMA 1,2 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 1,100 19 2,600 5 1,100 19 2,600 1,100 19 2,600 Activity Service Life (years) HMA Year of Action 0 9 18 26 45 45 **CAPM** CAPM CAPM Rehab HMA CAPM CAPM Activity Description HMA HMA HMA (20 yr)HMA HMA

| | | | | (years) | Activity Service Life | | | | | | | | | | | | | | |
|---|--------------|----|-------|-------------------------------------|--|---------|------|--|---|-------|----|---------|--|---|-----|-------|-----|---------|--|
| | Rehabilitati | on | | | | | | | | | | | | | | | | | |
| ſ | | | | Y | ear of Action | 0 | | | | 19 | | 24 | | | 43 | ; | | 48 | |
| | | | | Acti | vity Description | Rehab H | HMA | | | CAPM | Re | hab HMA | | | CAP | PM | Reh | nab HMA | |
| | | | | Acu | vity Description | (20 yı | r) | | | HMA | | (20 yr) | | | HM | A | (| (20 yr) | |
| | НМА | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | | ,600 | | 5 | 1,100 | 19 | 2,600 | | 5 | 5 1 | 1,100 | 19 | 2,600 | |

5,600

19

2,800

5,700

Annual Maint. Cost

(\$/lane-mile) over

5,700

Activity

117 APPENDIX 4

5,700

5,700

TABLE F-4 (b) Low Mountain & South Mountain Climate Regions HOT MIX ASPHALT W/ OGFC PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Begin Alternative 10 15 20 30 Surface Design Service Year 25 35 40 45 50 55 Construction Level New Construction/Reconstruction Year of Action CAPM HMA w/ Rehab HMA w/ CAPM HMA w/ New/ Activity Description OGFC OGFC (20 yr) OGFC Reconstruct 1,2 Annual Maint. Cost (\$/lane-mile) over 2,700 500 22 3,700 500 Service Life Activity Service Life 20 Year of Action 42 52 CAPM HMA w/ CAPM HMA w/ CAPM HMA w/ Rehab HMA w/ New/ Activity Description Reconstruct OGFC OGFC OGFC OGFC (20 yr) Annual Maint. Cost Activity 22 22 2,700 10 10 6,800 3,700 Service Life (\$/lane-mile) over 4,800 6,800 Activity Service Life (years) HMA w/ Year of Action 40 46 OGFC CAPM HMA w/ Rehab HMA w/ New/ Activity Description Reconstruct OGFC OGFC (20-yr) 1,2 Annual Maint. Cost Activity 22 7,500 500 2,700 Service Life (\$/lane-mile) over Activity Service Life 40 Year of Action 50 40 New/ CAPM HMA w/ CAPM HMA w/ Activity Description Reconstruct OGFC OGFC Activity Annual Maint. Cost (\$/lane-mile) over 40 7,500 10 6,800 10 6,800 Service Life (years) Activity Service Life CAPM Year of Action 0 28 34 CAPM HMA w/ Rehab HMA w/ CAPM HMA w/ Rehab HMA w/ Activity Description OGFC (20 yr) OGFC OGFC (20 yr) 1,2 Annual Maint. Cost Activity 22 22 Service Life (\$/lane-mile) over 500 3,700 500 3,700 Activity Service Life HMA w/ 5+ OGFC Year of Action 20 30 52 0 10 CAPM HMA w/ CAPM HMA w/ CAPM HMA w/ Rehab HMA w/ CAPM HMA w Activity Description OGFC OGFC (20 yr) **OGFC** OGFC OGFC Annual Maint. Cost 10 10 10 22 Service Life (\$/lane-mile) over 4,800 6,800 6,800 3,700 10 4,800 Activity Service Life (years) Rehabilitation Year of Action 22 28 50 Rehab HMA w/ CAPM HMA w/ Rehab HMA w/ CAPM HMA w/ Activity Description OGFC (20 yr) OGFC OGFC (20 yr) OGFC 20 1,2,3 Annual Maint. Cost Activity 22 3,700 500 22 3,600 500 Service Life (\$/lane-mile) over Activity Service Life HMA w/ Year of Action 40 CAPM HMA w/ Rehab HMA w/ Rehab HMA w/ Activity Description OGFC (40 yr) OGFC OGFC (40 yr) 40 1,2,3 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 40 7,800 500 40 7,800 Activity Service Life

TABLE F-4 (c) **Low Mountain & South Mountain Climate Regions** HOT MIX ASPHALT W/ RHMA PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Final Pvmt Begin Alternative 10 15 20 25 30 40 45 50 Surface Design Service 35 55 Construction Level New Construction/Reconstruction Year of Action Rehab HMA w/ CAPM HMA w/ CAPM HMA w/ New/ Activity Description Reconstruct RHMA RHMA (20 yr) RHMA 1,2 Annual Maint. Cost Service Life (\$/lane-mile) over 23 3,000 800 23 3,900 800 (years) Activity Service Life 20 Year of Action 23 33 43 CAPM HMA w/ CAPM HMA w/ CAPM HMA w/ Rehab HMA w/ New/ Activity Description RHMA RHMA (20 yr) Reconstruct RHMA RHMA Annual Maint. Cost Activity 23 10 600 5,300 5,300 23 3,900 Service Life (\$/lane-mile) over 3,000 10 10 Activity Service Life HMA w/ RHMA 47 Year of Action 0 40 CAPM HMA w/ Rehab HMA w/ New/ Activity Description RHMA RHMA (20-yr) Reconstruct 1,2 Activity Annual Maint. Cost 23 (\$/lane-mile) over 40 5,000 800 3,000 Service Life Activity Service Life (years) 40 Year of Action 0 40 50 CAPM HMA w/ CAPM HMA w/ New/ Activity Description Reconstruct RHMA RHMA Activity Annual Maint. Cost 10 10 (\$/lane-mile) over 40 5,000 600 5,300 Service Life Activity Service Life (years) CAPM Year of Action 0 30 37 CAPM HMA w/ Rehab HMA w/ CAPM HMA w/ Rehab HMA w/ Activity Description RHMA RHMA (20 yr) RHMA RHMA (20 yr) 1,2 Activity Annual Maint. Cost 23 23 (\$/lane-mile) over 800 4,000 800 4,000 Activity Service Life (years) HMA w/ 5+ RHMA Year of Action 53 0 10 20 30 CAPM HMA w/ CAPM HMA w/ CAPM HMA w/ Rehab HMA w/ CAPM HMA w/ Activity Description RHMA (20 yr) RHMA RHMA RHMA RHMA Activity Annual Maint. Cost 5,100 23 10 600 10 10 10 600 (\$/lane-mile) over 5,100 3.900 Service Life (years) Activity Service Life Rehabilitation Year of Action 23 53 0 30 Rehab HMA w/ CAPM HMA w Rehab HMA w/ CAPM HMA w/ Activity Description RHMA (20 yr) RHMA RHMA (20 yr) RHMA 20 1,2,3 Activity Annual Maint. Cost 23 Service Life (\$/lane-mile) over 4,000 800 23 4,300 800 Activity Service Life HMA w/ RHMA Year of Action 40 47 Rehab HMA w/ Rehab HMA w/ CAPM HMA w/ Activity Description RHMA (40 yr) RHMA RHMA (40 yr) 40 1,2,3 Activity Annual Maint. Cost 40 40 5,400 Service Life (\$/lane-mile) over 5,400 800 (years) Activity Service Life

TABLE F-4 (d) **Low Mountain & South Mountain Climate Regions** RUBBERIZED HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Final Maint. Pvmt Begin Alternative 5 10 15 20 25 40 45 50 55 Surface Design Service Year 30 35 Construction Type Life Level New Construction/Reconstruction Year of Action 21 26 47 52 **CAPM** Rehab RHMA CAPM Rehab RHMA New/ Activity Description Reconstruct RHMA (20 yr) RHMA (20 yr)1,2 Annual Maint. Cost Activity 21 5 21 Service Life (\$/lane-mile) over 2,300 1,100 2,600 1,100 2,600 Activity Service Life RHMA 20 Year of Action 0 21 30 39 47 New/ CAPM CAPM CAPM Rehab RHMA Activity Description Reconstruct RHMA **RHMA** RHMA (20 yr)3 Annual Maint. Cost Activity 9 (\$/lane-mile) over 21 2,300 4,400 4,900 21 2,600 Service Life 4,400 (years) Activity Service Life CAPM Year of Action 0 5 26 31 52 **CAPM** Rehab RHMA **CAPM** Rehab RHMA **CAPM** Activity Description **RHMA** (20 yr)**RHMA** (20 yr)RHMA 1,2 Activity Annual Maint. Cost 21 21 Service Life (\$/lane-mile) over 1,100 2,600 1,100 2,600 1,100 Activity Service Life RHMA 5+ 47 Year of Action 0 9 18 26 **CAPM** CAPM **CAPM** Rehab RHMA CAPM Activity Description **RHMA** RHMA (10 yr) RHMA (20 yr)RHMA 3 Activity Annual Maint. Cost (\$/lane-mile) over 21 4,400 4,400 4,400 4,900 2,600 8 Service Life (years) Activity Service Life Rehabilitation Year of Action 0 21 26 47 52 Rehab RHMA **CAPM** Rehab RHMA CAPM Rehab RHMA Activity Description (20 yr)RHMA (20 yr)RHMA (20 yr)1,2,3 RHMA 20 Annual Maint. Cost Activity 21 21 2,600 5 21 Service Life (\$/lane-mile) over 2,600 1,100 1,100 2,600 Activity Service Life (years)

120

| | | | | | RU | JBBERIZ | ED HOT MIX A | ASF | | | & Sout | BLE F-4 (e h Mountai EMENT M <i>A</i> | n Clin | | | LITAT | ION SCHE | ≣DUL | .Е | | | | | | |
|--------------------------|------------------------|----------------------------|----------------|---|----------|--------------------|--------------|-----|-----------------------------|----|--------|---|--------|----------------------|-----------------------|----------|---------------------------|------|--------------------------|----|-----------------|--------------------|-------|----|------------------------|
| Final Surface Type | Pvmt Design Life | Maint. Service Level | Y | ear | | Alternative | 5 | | 10 | 15 | | 20 | | 25 | 30 | | 35 | | 40 | | 45 | 50 | 0 | | 55 |
| New Constr | uction/Re | construc | 1 | 0.4 · · · | ı | | | | | | | | ı | 24 | | <u> </u> | 22 | | | | | | | | |
| | | | Year o | of Action | | 0 New/ | | | | | | | CAE | 24 PM RHMA w/ | | Reha | 32 ab RHMA w/ | | | | | | | | |
| | | 1.2 | Activity I | Description | | construct | | | | | | | | RHMA-O | | | 1A-O (20 yr) | | | | | | | | |
| | 20 | 1,2 | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 24 | 2,600 | | | | | | | 8 | 700 | | 24 | 3,500 | | | | | | | | |
| | 20 | | Year o | of Action | | 0 | | | | | | | | 24 | | | 34 | | | | 44 | | | | 54 |
| | | | Activity I | Description | | New/ construct | | | | | | | | PM RHMA w/ RHMA-O | | | M RHMA w/ RHMA-O | | | | RHMA w/ MA-O | | | | RHMA w/ A-O (20 yr) |
| RHMA w/ | | 3 | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 24 | 2,600 | | | | | | | 10 | 600 | | 10 | 600 | | | 10 | 5,000 | | | 24 | 3,500 |
| RHMA-O | | | Year o | of Action | | 0 | | | | | | | | | | | | | 40 | | | 4 | | | |
| | | | Activity I | Description | | New/ construct | | | | | | | | | | | | | M RHMA w/ HMA-O | | | Rehab RI RHMA-0 | | | |
| | | 1,2 | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 40 | 3,900 | | | | | | | | | | | | 8 | 700 | | | 24 | 4,100 | | |
| | 40 | | Year o | of Action | <u> </u> | 0 | | | | | | | | | | | | | 40 | | | 50 | 0 | | |
| | | | Activity I | Description | | New/ | | | | | | | | | | | | | M RHMA w/ | | • | CAPM R | | | |
| | | 3 | | | Re | construct | | | | | | | | | | | | R | HMA-O | | | RHM | IA-O | | |
| | | | Service Life (| nnual Maint. Cost \$/lane-mile) over etivity Service Life | 40 | 3,900 | | | | | | | | | | | | 10 | 600 | | | 10 | 700 | | |
| CAPM | | | ' | | | | | | | | | | | | | | | | | | | <u> </u> | | | |
| | | | Year o | of Action | | 0 | | | 8 | | | | | | 32 | | | | 40 | | | | | | |
| | | 1,2 | Activity I | Description | | I RHMA w/ HMA-O | | | nab RHMA w/ MA-O (20 yr) | | | | | | CAPM RHMA v RHMA-O | v/ | | | o RHMA w/ A-O (20 yr) | | | | | | |
| RHMA w/ | 5+ | | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 8 | 700 | | 24 | 5,200 | | | | | | 8 700 | | | 24 | 5,200 | | | | | | |
| RHMA-O | | | Year o | of Action | | 0 | | | 10 | | | 20 | | | | | | | 44 | | | | | | 54 |
| | | 3 | Activity I | Description | | I RHMA w/ HMA-O | | I | PM RHMA w/ RHMA-O | | | Rehab RHMA w RHMA-O (20 y | | | | | | | M RHMA w/ HMA-O | | | | | | I RHMA w/ HMA-O |
| | | | Service Life (| nnual Maint. Cost \$/lane-mile) over etivity Service Life | 10 | 600 | | 10 | 5,000 | | | 24 3,500 | | | | | | 10 | 600 | | | | | 10 | 600 |
| Rehabilitati | on | | | | | | | | • | | | <u> </u> | | | | | | | | | | | | | |
| | | | Year o | of Action | ъ . | 0 | | | <u> </u> | | | | G 1 - | 24 | | - · | 32 | | | | | | | | |
| | | | Activity I | Description | | A-O (20 yr) | | | | | | | | PM RHMA w/ RHMA-O | | | b RHMA w/ IA-O (20 yr) | | | | | | | | |
| RHMA w/ | 20 | 1,2,3 | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 24 | 5,200 | | | | | | | 8 | 700 | | 24 | 3,500 | | | | | | | | |
| RHMA-O | | | Year o | of Action | | 0 | | | · | | | | | | | | | | 40 | | | | 8 | | |
| | | | Activity I | Description | | A-O (40 yr) | | | | | | | | | | | | | M RHMA w/ HMA-O | | | Rehab RI RHMA-0 | | | |
| | 40 | 1,2,3 | Service Life (| nnual Maint. Cost \$/lane-mile) over ctivity Service Life | 40 | 3,100 | | | | | | | | | | | | 8 | 700 | | | | 3,100 | | |

121

TABLE F-5 (a) **High Mountain & High Desert Climate Regions** HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Final Pvmt Maint. Begin Alternative 25 30 35 40 50 Design Service Year 10 15 20 45 55 Surface Construction Life New Construction/Reconstruction Year of Action 18 23 41 46 0 New/ CAPM Rehab HMA CAPM Rehab HMA Activity Description Reconstruct HMA (20 yr)HMA (20 yr)1,2 Annual Maint. Cost Service Life (\$/lane-mile) over 2,300 5 1,100 18 2,300 5 1,300 18 900 Activity Service Life HMA 20 Year of Action 18 26 34 42 CAPM CAPM CAPM Rehab HMA New/ Activity Description HMA HMA HMA (20 yr)Reconstruct Annual Maint. Cost Activity (\$/lane-mile) over 18 8 3,500 18 2,300 7,700 7,700 2,300 (years) Activity Service Life CAPM Year of Action 0 5 23 28 46 51 **CAPM** Rehab HMA CAPM Rehab HMA CAPM Rehab HMA Activity Description **HMA** (20 yr)HMA (20 yr)HMA (20 yr)1,2 Annual Maint. Cost Activity 18 18 18 Service Life (\$/lane-mile) over 1,100 2,300 1,100 2,300 1,100 2,300 (years) Activity Service Life HMA 5+ Year of Action 0 8 16 24 42 50 **CAPM** CAPM CAPM CAPM **CAPM** Rehab HMA Activity Description **HMA** HMA HMA (20 yr) HMA HMA3 Annual Maint. Cost Activity Service Life (\$/lane-mile) over 3,500 7,700 8 7,700 18 2,300 3,500 7,700 Activity Service Life (years) Rehabilitation Year of Action 18 23 41 46 0 CAPM CAPM Rehab HMA Rehab HMA Rehab HMA Activity Description (20 yr)HMA (20 yr)HMA (20 yr)HMA 20 1,2,3 Activity Annual Maint. Cost (\$/lane-mile) over 2,300 5 1,100 18 3,300 5 1,100 18 900 Service Life Activity Service Life (years)

| | | | | | | НС | т м | IIX ASPH | | | Mountain & F | BLE F-5 (b) ligh Desert Cl MAINTENANG | | | | SCHEDULE | | | | | | | |
|-------------------------------|------------------|----------------------------|-------------------------------------|--|-----|---------------------------|-----|-------------------------|----------------|-----|--------------|---|---------|-------------------------|------------------------------|----------|-----|-------------------|------|-------------------|-----------------|--------------|----|
| Final Surface Type New Constr | Pvmt Design Life | Maint. Service Level | tion | Year | _ | n Alternative onstruction | | 5 | 10 | | 15 | 20 | | 25 | 30 | 35 | | 40 | | 45 | 5 | 0 | 55 |
| THEW COUST | ucuon/Re | Construc | | ar of Action | | 0 | | | | | | 20 | | 25 | | | | | | 45 | - | 0 | |
| | | | 1 6 | ar of Action | | | | | | | | | D . I I | | - | | | | CAD | M HMA w/ | Rehab F | | |
| | | | Activ | ity Description | | New/ construct | | | | | | CAPM HMA w/ RHMA | | b HMA w/ /IA (20 yr) | | | | | | NI HMA W/ RHMA | RHMA | | |
| | 20 | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 8,800 | | | | | | 5 0 | 20 | 9,800 | | | | | 5 | 0 | 20 | 9,800 | |
| | 20 | | Ye | ar of Action | | 0 | | | | | | 20 | | | 30 | | | 40 | | | 5 | 0 | |
| | | | Activ | ity Description | | New/ econstruct | | | | | | CAPM HMA w/ RHMA | | | CAPM HMA w/ RHMA | | | PM HMA w/ RHMA | | | Rehab H RHMA | | |
| TD44 | | 3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 8,800 | | | | | | 10 5,900 | | | 10 7,900 | | 10 | 7,900 | | | | 9,800 | |
| HMA w/ RHMA | | | Ye | ar of Action | | 0 | | | | | | | | | | | | 40 | | 45 | | <u> </u> | |
| KHWIA | | | | | | New/ | | | | | | | | | | | CAF | PM HMA w/ | Reha | b HMA w/ | | | |
| | | | Activ | ity Description | | construct | | | | | | | | | | | | RHMA | | 1A (20 yr) | | | |
| | | 1,2 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 40 | 12,300 | | | | | | | | | | | 5 | 0 | 20 | 9,800 | | | |
| | 40 | | 37 | C.A: | | 0 | | | | | | | | | | | | 40 | | | | 0 | |
| | | | Ye | ar of Action | _ | 0 | | | | | | | | | | | CAL | 40 | ł | | CAPM I | 0 | |
| | | | Activ | rity Description | | New/ econstruct | | | | | | | | | | | | PM HMA w/ RHMA | | | | MA | |
| | | 3 | Activity | Annual Maint. Cost | | | | | | | | | | | | | | | | | | | |
| | | | Service Life (years) | (\$/lane-mile) over Activity Service Life | 40 | 12,300 | | | | | | | | | | | 10 | 5,900 | | | 10 | 5,900 | |
| CAPM | 1 | | T | | | | | | T | | | | | | T | | | | | , | | | |
| | | | Ye | ar of Action | | 0 | | 5 |] | | | | | 25 | 30 | | | | | | 5 | 0 | |
| | | 1,2 | Activ | ity Description | | PM HMA w/ RHMA | | ab HMA w/ MA (20 yr) | | | | | | M HMA w/ RHMA | Rehab HMA w/ RHMA (20 yr) | | | | | | CAPM I | HMA w/ MA | |
| HMA w/ | | | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 5 | 0 | 20 | 9,800 | | | | | 5 | 0 | 20 9,800 | | | | | | 5 | 0 | |
| RHMA | 5+ | | Ye | ar of Action | | 0 | | | 10 | | | 20 | | | 30 | | | | | | 5 | 0 | |
| | | | Activ | ity Description | | PM HMA w/ RHMA | | | CAPM HN RHM | | | CAPM HMA w/ RHMA | | | Rehab HMA w/ RHMA (20 yr) | | | | | | CAPM I | | |
| | | 3 | Activity | Annual Maint. Cost | | | | | | | | | | | | | | | | | | | |
| | | | Service Life (years) | (\$/lane-mile) over Activity Service Life | 10 | 5,900 | | | 10 7, | 900 | | 10 7,900 | | | 20 9,800 | | | | | | 10 | 5,900 | |
| Rehabilitati | on | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ar of Action | Reh | 0 ab HM A w/ | | | | | | 20 CAPM HMA w/ | Rehal | b HMA w/ | | | | | CAPI | 45 M HMA w/ | Rehab H | 0 HMA w/ | |
| | 20 | 122 | Activ | ity Description | | MA (20 yr) | | | | | | RHMA | | 4A (20 yr) | | | | | | RHMA | RHMA | | |
| HMA w/ | 20 | 1,2,3 | Activity Service Life (years) | Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 20 | 9,800 | | | | | | 5 0 | 20 | 9,800 | | | | | 5 | 0 | 20 | 9,800 | |
| RHMA | | | Ye | ar of Action | | 0 | | | | | | | | | | | | 40 | | 45 | | | |
| | | | | | Reh | ab HMA w/ | | | | | | | | | | | CAF | PM HMA w/ | | b HMA w/ | | | |
| | 40 | 1,2,3 | Activity | Annual Maint. Cost | RH | MA (40 yr) | | | | | | | | | | | | RHMA | RHN | 1A (40 yr) | | | |
| | | | Service Life (years) | (\$/lane-mile) over Activity Service Life | 40 | 14,300 | | | | | | | | | | | 5 | 0 | 40 | 14,300 | | | |

TABLE F-5 (c) **High Mountain & High Desert Climate Regions** RUBBERIZED HOT MIX ASPHALT PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Final Pvmt Begin Alternative 25 30 35 40 45 Design Service Year 10 15 20 50 55 Surface Construction Life New Construction/Reconstruction Year of Action 0 20 25 45 50 CAPM Rehab RHMA CAPM Rehab RHMA New/ Activity Description Reconstruct RHMA (20 yr)RHMA (20 yr)1,2 Annual Maint. Cost Activity 20 (\$/lane-mile) over 5 1,100 20 20 Service Life 2,100 3,100 1,100 3,100 Activity Service Life (years) RHMA 20 Year of Action 20 47 0 29 38 New/ CAPM CAPM CAPM Rehab RHMA Activity Description Reconstruct RHMA RHMA RHMA (20 yr) Annual Maint. Cost Activity (\$/lane-mile) over 20 2,100 9 20 Service Life 3,100 6,700 6,700 3,100 Activity Service Life (years) CAPM Year of Action 0 5 25 30 50 **CAPM** Rehab RHMA CAPM Rehab RHMA CAPM Activity Description RHMA (20 yr)RHMA (20 yr)RHMA 1,2 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 1,100 20 3,100 1,100 20 3,100 5 1,100 Activity Service Life (years) RHMA 9 18 47 Year of Action 0 **CAPM** CAPM CAPM Rehab RHMA CAPM Activity Description RHMA RHMA RHMA (20 yr)RHMA 3 Annual Maint. Cost Activity Service Life (\$/lane-mile) over 3,100 9 6,700 9 6,700 20 3,100 3,100 Activity Service Life (years) Rehabilitation Year of Action 20 45 0 25 50 Rehab RHMA CAPM Rehab RHMA CAPM Rehab RHMA Activity Description (20 yr)RHMA (20 yr)RHMA (20 yr) RHMA 20 1,2,3 Annual Maint. Cost Activity (\$/lane-mile) over 20 3,100 5 1,100 20 3,100 5 20 3,100 Service Life 1,100 Activity Service Life (years)

| | | | | | In | ıland Valley, [| Dessert, Low | | LE R-1 (a) outh Mountain | n, and all Coa | stal | Climate | Region | s | | | | | | |
|-----------------------------|------------------------|----------------------------|--|----|---------------------------|-----------------|--------------|----|-----------------------------|-------------------------------|------|-------------------------------|-------------|-----|-------------------------------|-----|-------------------------------|-------|---------------------------|--------------------------------------|
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | _ | n Alternative onstruction | rigid AND CC | DMPOSITE PA | 15 | 20 | 25 | ITA1 | 30 | HEDULE 3 | | 40 | | 45 | 5 | 50 | 55 |
| New Construction | on/Recons | truction | | | | ı | | | | | | | | | | | | ı | | |
| | | | Year of Action Activity Description | | 0 New/econstruct | | | | | | | 30 CAPM + JPCP SR) | | | CAPM (FO+ JPCP SR) | La | 45 ine Replace | liste | d under t | eplace option the rigid and |
| | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 30 | 4,100 | | | | | | 8 | 700 | | | 7 800 | | | | | vement M&R w the strategy ence |
| Composite | | | Year of Action | ' | 0 | | | | | | | | | | ' | | | 5 | 50 | |
| | 40 | 1,2,3 | Activity Description | | New/ econstruct | | | | | | | | | | | | | | APM PCP SR) | |
| | 40 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over Activity Service Life | 50 | 4,800 | | | | | | | | | | | | | 8 | 700 | |
| | | | Year of Action | | 0 | | | | | 25 | | 30 | | | 40 | | 45 | | • | |
| | | | Activity Description | | New/ econstruct | | | | | CAPM (CPR C ³) | | CAPM (CPR B ²) | | | CAPM (CPR A ¹) | Roa | dway Rehab | liste | d under t | ilitation option the rigid and |
| Rigid - Jointed Plain | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 25 | 700 | | | | | 5 3,000 | 10 | 1,500 | | | 5 3,100 | | | | | vement M&R w the strategy ence |
| Concrete | | | Year of Action | | 0 | | | | | <u> </u> | | | -1 | | 1 | | 45 | 5 | 50 | |
| Pavement (JPCP) | | | Activity Description | | New/ econstruct | | | | | | | | | | | | CAPM (CPR C ³) | | APM R B ²) | |
| | 40 | 1,2,3 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 45 | 800 | | | | | | | | | | | 5 | 3,000 | 10 | 1,500 | |
| | | | Year of Action | | 0 | | | | | | | 30 | 3 | | | | 45 | | | |
| | 20 | 1,2,3 | Activity Description | | New/ econstruct | | | | | | | CAPM (PR C ⁷) | CAI (PR | | | | CAPM (PR A ⁵) | | | |
| Rigid - Continuously | 20 | 1,2,3 | Activity Annual Maint. Cost (\$/lane-mile) over (years) Activity Service Life | 30 | 200 | | | | | | 5 | 1,400 | 10 | 600 | | 10 | 600 | | | |
| Reinforced Concrete | | | Year of Action | | 0 | | | | | | | | • | | | | | | | |
| Pavement (CRCP) | | | Activity Description | | New/ | | | | | | | | | | | | | | | |
| | 40 | 1,2,3 | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | 55 | 200 | | | | | | | | | | | | | | | |

Note

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.
- 5. Punchout Repair A involves significant punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements that had previous punchout repairs and a flexible overlay.
- 6. Punchout Repair B involves moderate punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements where the total number of current & previous punchout repairs exceed 4 per mile.
- 7. Punchout Repair C involves minor punchout repairs & limited diamond grinding around the punchout repair area. It applies to continuously reinforced concrete pavements where the total number of punchout repairs do not exceed 4 per mile.

| | | | | | | | | | | ıntain, S | BLE R-1 (b) | | | | | | | |
|---------------------------------------|------------------------|----------------------------|--|----|------------------------------|-------------------------------|--------|------------------------------|--------|------------------------------|----------------------------------|-------------------|--------------------|--------------------|-------------------------------------|--------------------|---|---------------|
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | | 0 | 5 | JMP | 10 | VEN | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| CAPM | | | T CA C | 1 | 0 | | 1 | 10 | | 15 | 20 | | | | | | | |
| Slab | | | Year of Action Activity Description | | CAPM CPR C³) | 1 | | CAPM | | CAPM CPR A ¹) | 20 Roadway Rehab ⁴ | | | | | | | |
| Replacement (CPR ³) | 10 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over | 10 | 2,098 | _ | 5 | CPR B ²) 4135 | 5 | 4,135 | | Select a re | habilitation optic | | he rigid and con strategy sequen | | ent M&R table and | d follow the |
| | | | (years) Activity Service Life | | | | | | | | | | | | | | | |
| | | | Year of Action | - | 0 | 1 | | | | | | | | | | | | |
| | 5 | 1,2,3 | Activity Description | | CAPM ex Overlay) | use, first dete | rmine | the initial | pave | ment type | and the original | rehabilitation c | ompleted. Next | i, determined ar | ny other rehabilit | ations and/or C | appropriate M&R APM projects co | mpleted after |
| Composite | | , ,- | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | | | | | | | | | | | | | | M&R table that by completed in the | |
| Composite | | | Year of Action | - | 0 | EXAMPLE: V | OLL ar | a doing a | Elevih | le Overlay | and IPCP Slah | Penlacement | on a previouely | cracked seate | d and overlaid i | project (doesn't | matter whether it | was 10 or 20 |
| | 5 | 1,2,3 | Activity Description | | CAPM + JPCP SR) | year). Previo | ous w | ork include | edar | emove an | d replace RHMA | -O 7 years afte | er the crack, sea | at, and flexible o | verlay (CSFOL) | rehabilitation, a | and a 0.10' HMA ation completed v | overlay at 18 |
| | ١ | 1,2,5 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | | | | | | | | nder this sequer | ice and the futi | | include a CAPI | M (FO + JPCP S | | A overlay at 18 ye and a 20-year reh | |
| | | | Year of Action | - | O | 5 | - | | | | | | | | | | | |
| | 5 | 1,2,3 | Activity Description | | CAPM CPR A ¹) | Roadway Rehab | | | Sel | ect a reha | bilitation option I | isted under the | rigid and comp | osite pavemen | t M&R table and | I follow the strat | eav sequence | |
| | | | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 5 | 3,100 | | | | | | | | | | | | 3, 1 | |
| | | | Year of Action | | 0 | | | 10 | | 15 | | | | | | | | |
| Rigid - Jointed Plain | 10 | 1,2,3 | Activity Description | | CAPM CPR B ²) | | | CAPM CPR A ¹) | Roa | dway Rehab | Select a rehab | nilitation option | listed under the | rigid and comr | oosite navement | t M&R table and | follow the strate | av seguence |
| Concrete Pavement (JPCP) | | ,_,_ | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | 10 | 1,500 | | 5 | 3,100 | | | | | | | | | | 9, |
| | | | Year of Action | | 0 | 5 | | | | 15 | | | | | | | | |
| | _ | | Activity Description | | CAPM CPR C³) | CAPM (CPR B ²) | | | | CAPM CPR A ¹) | | | | | | | | |
| | 5 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 5 | 3,000 | 10 1,500 | | | 5 | 3,100 | | | | | | | | |
| | | | Year of Action | | 0 | 1 | | 10 | _ | | | | | | | | | |
| | 5 | 1,2,3 | Activity Description | | CAPM (PR A ⁵) | | | Replace with CRCP | | Seled | ct a lane replace | option listed u | nder the rigid ar | nd composite pa | avement M&R ta | able and follow | he strategy sequ | ence |
| | | | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 10 | 600 | | | | | | • | - | | | | | | |
| | | | Year of Action | | 0 | 1 | | 10 | | | | | | | | | | |
| Rigid - Continuously Reinforced | 10 | 1,2,3 | Activity Description | | CAPM (PR B ⁶) | | | CAPM (PR A ⁵) | | | | | | | | | | |
| Concrete Pavement (CRCP) | | | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 10 | 600 | | 10 | 600 | | | | | | | | | | |
| | | | Year of Action | | 0 | 5 | | | | 15 | | | | | | | | |
| | | | Activity Description | | CAPM (PR C ⁷) | CAPM (PR B ⁶) | | | | CAPM (PR A ⁵) | | | | | | | | |
| | 10 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 5 | 1,400 | 10 600 | | | 10 | 600 | | | | | | | | |

- Notes:

 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.
- 5. Punchout Repair A involves significant punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements that had previous punchout repairs and a flexible overlay.
- 6. Punchout Repair B involves moderate punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements where the total number of current & previous punchout repairs exceed 4 per m
- 7. Punchout Repair C involves **minor** punchout repairs & limited diamond grinding around the punchout repair area. It applies to **continuously reinforced concrete pavements** where the total number of punchout repairs do not exceed 4 per mile.

| | | | | | | | | | | R-1 (c) | | | | | | | | | | | | |
|------------------------|------------------------|----------------------------|--|-----|------------------------|---|-----------------------------|------------------|-------|---------------------|------|--------------------|-------|----------------------|-----------------|--------|--------------------|-----------------|---------|-----------------------------------|--------|--------------------|
| | | | | | | • | Dessert, Low DMPOSITE PA | - | | | | | | | • | | | | | | | |
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | | 0 | 5 | 10 | 15 | | 20 | | 25 | | 30 | 35 | | 40 | 45 | | 50 | | 55 |
| Rehabilitation | (a) | ı | | | | | | | 1 | 10 | | | 1 | | | | | | _ | 1.5 | | |
| | | | Year of Action | | 0 | | | | | 18 | | 23 | | 28 | | | | | - | 46 | | 51 |
| | 20 | 1,2,3 | Activity Description | | yr Rehab CSFOL) | | | | | CAPM ex Overlay) | | CAPM + JPCP SR) | |)-yr Rehab (MSRO) | | | | | | CAPM + JPCP SR) | | CAPM + JPCP SR) |
| | 20 | 1,2,5 | Activity Service Life (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 18 | 1,400 | | | | 5 | 1,100 | 5 | 1,100 | 18 | 1,400 | | | | | 5 | 1,100 | 7 | 800 |
| | | | Year of Action | | 0 | | | | | 18 | | 23 | | 30 | | | | | | | | |
| | 20 | 1.2.2 | Activity Description | | yr Rehab MSRO) | | | | | CAPM + JPCP SR) | | CAPM + JPCP SR) | La | ne Replace | Select a lane r | eplad | ce option lis | sted under the | rigid a | ind compo | site p | pavement |
| | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 18 | 1,400 | | | | 5 | 1,100 | 7 | 800 | | | | | | follow the stra | | | • | |
| | | | Year of Action | | 0 | | | | | | | | | | | | | | | | | |
| Flexible/ | 20 | | Activity Description | Lan | e Replace | | | | | | | | | | | | | | | | | |
| composite | & 40 | 1,2,3 | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | | | | Follow the s | trategies for ne | w cor | nstruction/ | ecor | nstruction ir | n the | | flexible paveme | ent ta | | | imate | region | | |
| | | | Year of Action | | 0 | | | | | | | | | 30 | | | 38 | 45 | | | | |
| | | | Activity Description | | yr Rehab e Replace) | | | | | | | | 1 | CAPM + JPCP SR) | | | CAPM + JPCP SR) | Lane Replace | lis | ect a lane i ted under | the ri | gid and |
| | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over Activity Service Life | 30 | 4,100 | | | | | | | | 8 | 700 | | 7 | 800 | | | nposite pa e and follo sequ | w the | strategy |
| | | | Year of Action | | 0 | | | | | | | | | | | | | | | 50 | | |
| | 40 | 1.2.2 | Activity Description | | yr Rehab e Replace) | | | | | | | | | | | | | | | CAPM + JPCP SR) | | |
| | 40 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 50 | 4,800 | | | | | | | | | | | | | | 8 | 700 | | |

Notes:

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.
- 5. Punchout Repair A involves significant punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements that had previous punchout repairs and a flexible overlay.
- 6. Punchout Repair B involves moderate punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements where the total number of current & previous punchout repairs exceed 4 per mile.
- 7. Punchout Repair C involves minor punchout repairs & limited diamond grinding around the punchout repair area. It applies to continuously reinforced concrete pavements where the total number of punchout repairs do not exceed 4 per mile.

| | | | | | = | Dessert, Low | Mountain, So | | | | | | _ | | | | | | |
|---------------------------------------|------------------------|----------------------------|--|-------------------------------|---|--------------|--------------|----|---|-------------------------------|----|-------------------------------|------------------------------|---|------------------------------|-------------------------------|------------|-----------|--------------------------------------|
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | 0 | 5 | 10 | 15 | 20 | | 25 | | 30 | 35 | | 40 | 45 | 5 | 0 | 55 |
| Rehabilitation (| b) | | | | | | | | | | | | | | | | | | |
| | | | Year of Action | 0 | | | | | | 25 | | 30 | | | 40 | 45 | | | Ţ |
| | 20 | 1.2.2 | Activity Description | 20-yr Rehab (Lane Replace) | | | | | | CAPM (CPR C ³) | 1 | CAPM (CPR B ²) | | | CAPM CPR A ¹) | Roadway Rehab | listed | d under t | litation option he rigid and |
| Rigid - Jointed Plain | 20 | 1,2,3 | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | 25 700 | | | | | 5 | 3,000 | 10 | 1,500 | | 5 | 3,100 | | | | vement M&R v the strategy ence |
| Concrete | | | Year of Action | 0 | | | | | | • | | | • | | | 45 | 5 | 0 | |
| Pavement (JPCP) | | | Activity Description | 40-yr Rehab (Lane Replace) | | | | | | | | | | | | CAPM (CPR C ³) | CA (CPI | II | |
| | 40 | 1,2,3 | Activity Annual Maint. Cost (Sylane-mile) over (years) Activity Service Life | 45 800 | | | | | | | | | | | | 5 3,000 | 10 | 1,500 | |
| | | | Year of Action | 0 | | | | | | | | 30 | 35 | | | 45 | | | |
| | 20 | 1.2.2 | Activity Description | 20-yr Rehab (Lane Replace) | | | | | | | | CAPM (PR C ⁷) | CAPM (PR B ⁶) | | | CAPM (PR A ⁵) | | | |
| Rigid - Continuously Reinforced | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 30 200 | | | | | | | 5 | 1,400 | 10 600 | | | 10 600 | | | |
| Concrete | | | Year of Action | 0 | | | | | | | | | | | | | | | |
| Pavement (CRCP) | | | Activity Description | 40-yr Rehab (Lane Replace) | | | | | | | | | | | | | | | |
| | 40 | 1,2,3 | Activity Service Life (\$/lane-mile) over (years) Annual Maint. Cost (\$/lane-mile) over Activity Service Life | 55 200 | | | | | | | | | | | | | | | |

Notes:

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.
- 5. Punchout Repair A involves significant punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements that had previous punchout repairs and a flexible overlay.
- 6. Punchout Repair B involves moderate punchout repairs & 0.15' of flexible overlay. It applies to continuously reinforced concrete pavements where the total number of current & previous punchout repairs exceed 4 per mile.
- 7. Punchout Repair C involves **minor** punchout repairs & limited diamond grinding around the punchout repair area. It applies to **continuously reinforced concrete pavements** where the total number of punchout repairs do not exceed 4 per mile.

TABLE R-2 (a) **High Mountain and High Desert Climate Regions** RIGID AND COMPOSITE PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Pvmt Final Pavemen Begin Alternative 30 Design Year 10 15 20 25 35 40 45 50 55 Service Construction Type Life Level New Construction/Reconstruction Year of Action 30 40 45 Select a lane replace option CAPM CAPM New/ Activity Description Lane Replace (FO+ JPCP SR) (FO+ JPCP SR) listed under the rigid and Reconstruct 20 1,2,3 composite pavement M&R Annual Maint, Cost table and follow the strategy Activity 30 5 (\$/lane-mile) over 7,300 10 5,900 1,100 Service Life sequence Activity Service Life (years) Composite Year of Action 50 CAPM New/ Activity Description (FO+ JPCP SR) Reconstruct 1,2,3 Activity Annual Maint. Cost Service Life (\$/lane-mile) over 8,400 1,100 (years) Activity Service Life Year of Action 25 30 40 45 Select a rehabilitation option CAPM CAPM CAPM New/ Activity Description Roadway Rehab listed under the rigid and $(CPR C^3)$ $(CPRA^{1})$ Reconstruct $(CPR B^2)$ 1,2,3 20 composite pavement M&R table and follow the strategy Activity Annual Maint. Cost Rigid -25 5 3,100 Service Life (\$/lane-mile) over 3,100 3,000 10 1,500 sequence Jointed (years) Activity Service Life Plain Concrete Year of Action 45 50 Pavement CAPM CAPM New/ (JPCP) Activity Description Reconstruct $(CPR C^3)$ $(CPR B^2)$ 1,2,3 40 Activity Annual Maint. Cost 3.800 3,000 Service Life (\$/lane-mile) over 1,500 Activity Service Life (years)

CPR = Concrete Pavement Rehabilitation, CSFOL = Crack, Seat, and Flexible Overlay, FO = Flexible Overlay, MSRO = Mill, Slab Replacement & Overlay, SR = Slab Replacement

Notes:

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.

| | | | | | RIGI | D AND CO | | | | ain and F | | esert Cl | imate Region | ns LITATION SCI | HEDULE | | | | |
|---------------------------------|--|----------------------------|--|-------------------------------|------|-------------------------------|--------|------------------------------|------|-------------------------------|------------|-----------------------|-------------------|--------------------|------------------|-------------------------------|-------------------|--------------------|----------------|
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | 0 | | 5 | | 10 | | 15 | | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| CAPM | Life | Lever | | | | | | | | | | | | | | | | | |
| | | | Year of Action | 0 | | | | 10 | | 15 | | 20 | | | | | | | |
| Slab | | | Activity Description | CAPM (CPR C ³) |] | | | CAPM CPR B ²) | | CAPM (CPR A ¹) | Roadwa | ay Rehab ⁴ | Select a reh | nabilitation optio | n listed under t | the rigid and com | nosite naveme | ent M&R table a | nd follow the |
| Replacement (CPR ³) | 10 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 10 2,098 | | | 5 | 4135 | 5 | 4,135 | | | 00.000.0070. | | | strategy sequenc | | | |
| | | | Year of Action | 0 | | | | | | | | | | | | | | | |
| | 5 | 1,2,3 | Activity Description | CAPM (Flex Overlay) | us | e, first dete | ermine | the initial | pave | ment type | and the | original | rehabilitation co | impleted. Next | , determined a | g pavement. To | ations and/or C | APM projects c | ompleted after |
| | Composite 1,2,3 Activity Annual Maint. Cost (\$/lane-mile) over (years) Activity Service Life (years) Activity Service Life (Annual Maint. Cost (\$/lane-mile) over (years) Activity Service Life (Annual Maint. Cost (\$/lane-mile) over (years) Activity Service Life (Annual Maint. Cost (\$/lane-mile) over (Activity Service Life (years) Activity S | | | | | | | | | | | | | | | | | | |
| Year of Action 0 | | | | | | | | | | | | | | | | | | | |
| | Year of Activity Description Activity Description CAPM (FO + JPCP SR) Separate the CSFOL project. From this information it can be determined that the initial pavement type was rigid and the original rehabilitation completed was a CSFOL If the RHMA-O project at year 7 is ignored, it can be determined that the best fit for this sequence is the 20-year CSFOL. The 0.10' HMA overlay at 18 years after the composite of the project (doesn't matter whether it was 10 or year). Previous work included a remove and replace RHMA-O 7 years after the crack, seat, and flexible overlay (CSFOL) rehabilitation, and a 0.10' HMA overlay at 18 years after the crack, seat, and flexible overlay (CSFOL) rehabilitation completed was a CSFOL in the RHMA-O project at year 7 is ignored, it can be determined that the best fit for this sequence is the 20-year CSFOL. The 0.10' HMA overlay at 18 years after the complete that the best fit for this sequence is the 20-year CSFOL. | | | | | | | | | | | | | | | overlay at 18 was a CSFOL. | | | |
| | 3 | 1,2,5 | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | | | | | | | | nder this | s sequer | ice and the futu | | include a CAP | M (FO + JPCP S | | | |
| | | | Year of Action | 0 | | 5 | | | | | | | | | | | | | |
| | 5 | 1,2,3 | Activity Description | CAPM (CPR A ¹) | Roa | adway Rehab | | | Se | lect a reha | hilitation | n ontion l | isted under the | rigid and comp | osite navemer | nt M&R table and | follow the strat | ean sealleac | |
| | | 1,2,5 | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | 5 5,100 | | | | | 00 | icot a rena | | Торион | ioted dilder the | rigid and comp | osite paverner | it wart table and | Tollow the Strain | egy sequence | |
| | | | Year of Action | 0 | | | | 10 | | 15 | | | | | | | | | |
| Rigid - Jointed Plain | 10 | 1,2,3 | Activity Description | CAPM (CPR B ²) | | | | CAPM CPR A ¹) | Roa | ndway Rehab | Selec | ct a rehal | pilitation option | listed under the | rigid and com | posite pavement | M&R table and | I follow the strat | eav seauence |
| Concrete Pavement (JPCP) | | -,-,- | Activity Service Life (\$/lane-mile) over (years) Activity Service Life | 10 1,500 | | | 5 | 3,100 | | | | , a . o . a . | | | rigia ana com | posito pavollicia | mark table and | . ronow and od at | logy doquelled |
| | | | Year of Action | 0 | | 5 | | | | 15 | | 20 | | | | | | | |
| | 5 | 1,2,3 | Activity Description | CAPM (CPR C ³) | | CAPM (CPR B ²) | | | (| CAPM (CPR A ¹) | Roadw | ay Rehab | Select a reh | nabilitation optio | | the rigid and com | | ent M&R table a | nd follow the |
| | | -,2,5 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 5 3,000 | 5 | 1,500 | | | 5 | 4,393 | | | | | : | strategy sequenc | e | | |

Notes:

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, significant slab replacement, spall repair, & joint seal repair. It is for JPCP projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, moderate slab replacement, spall repair, & joint seal repair. It is for JPCP projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, minor slab replacement, spall repair, & joint seal repair. It is for JPCP projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation. 130

TABLE R-2 (c) **High Mountain and High Desert Climate Regions** RIGID AND COMPOSITE PAVEMENT MAINTENANCE AND REHABILITATION SCHEDULE Maint. Pvmt Final Pavemen 10 25 30 45 50 Design Service Year 15 20 35 40 55 Type Rehabilitation (a) Year of Action 23 28 18 46 51 20-yr Rehab CAPM CAPM 20-vr Rehab CAPM CAPM Activity Description (CSFOL) (FO+ JPCP SR) (MSRO) (FO+ JPCP SR) (Flex Overlay) (FO+ JPCP SR) 20 1,2,3 Annual Maint. Cost Activity 5 18 (\$/lane-mile) over 6,300 1,100 6,300 1,100 Service Life (years) Activity Service Life Year of Action 18 23 30 20-vr Rehab CAPM CAPM Activity Description Lane Replace Select a lane replace option listed under the rigid and composite pavement (MSRO) (FO + JPCP SR) (FO + JPCP SR) 20 1,2,3 M&R table and follow the strategy sequence Annual Maint. Cost Activity 6,300 1,100 (\$/lane-mile) over Activity Service Life (years) Year of Action 20 Activity Description Lane Replace Flexible/ 1,2,3 Follow the strategies for new construction/reconstruction in the applicable flexible pavement tables for the appropriate climate region & Composite 40 Annual Maint. Cost Activity (\$/lane-mile) over Service Life Activity Service Life 0 30 40 45 Year of Action Select a lane replace option 20-yr Rehab CAPM CAPM listed under the rigid and Activity Description Lane Replace (FO+ JPCP SR) (FO+ JPCP SR) (Lane Replace) 20 1,2,3 composite pavement M&R table and follow the strategy Activity Annual Maint. Cost (\$/lane-mile) over 30 7,300 10 5,900 1,100 sequence Activity Service Life (years) Year of Action 50 40-yr Rehab CAPM Activity Description (Lane Replace) (FO+ JPCP SR) 40 1,2,3 Annual Maint, Cost Activity 1,100 Service Life (\$/lane-mile) over 8.400

CPR = Concrete Pavement Rehabilitation, CSFOL = Crack, Seat, and Flexible Overlay, FO = Flexible Overlay, MSRO = Mill, Slab Replacement & Overlay, SR = Slab Replacement

Notes

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.

| | | | | F | RIGID AND CO | High Mo | untain and H | • | | _ | | TION SCI | HEDULE | | | | | | |
|-----------------------------|------------------------|----------------------------|--|-------------------------------|--------------|---------|--------------|----|---|------------------------------|----|------------------------------|--------|---|------------------------------|-----|------------------|--|----------------|
| Final Pavement Type | Pvmt Design Life | Maint. Service Level | Year | 0 | 5 | 10 | 15 | 20 | | 25 | | 30 | 35 | | 40 | | 45 | 50 | 55 |
| Rehabilitation | (b) | T | | | | | | | | | | | | ı | | | | | |
| | | | Year of Action | 0 | | | | | | 25 | | 30 | _ | | 40 | | 45 | | |
| | 20 | 1,2,3 | Activity Description | 20-yr Rehab (Lane Replace) | | | | | | CAPM CPR C ³) | | CAPM CPR B ²) | | | CAPM CPR A ¹) | Roa | dway Rehab | Select a rehabilisted under composite pa | the rigid and |
| Rigid - Jointed Plain | 20 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 25 3,100 | | | | | 5 | 3,000 | 10 | 1,500 | | 5 | 5,100 | | | table and follo | w the strategy |
| Concrete | | | Year of Action | 0 | | | | | | | 1 | l | 1 | | | | 45 | 50 | |
| Pavement (JPCP) | 40 | 122 | Activity Description | 40-yr Rehab (Lane Replace) | | | | | | | | | | | | | CAPM $CPR C^3$) | $\begin{array}{c} \text{CAPM} \\ (\text{CPR B}^2) \end{array}$ | |
| | 40 | 1,2,3 | Activity Annual Maint. Cost Service Life (\$/lane-mile) over (years) Activity Service Life | 45 3,200 | | | | | | | | | | | | 5 | 3,000 | 10 1,500 | |

Notes:

- 1. Concrete Pavement Rehabilitation A involves pavement grinding, **significant** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs that were replaced or exhibit third stage Rigid Cracking greater than or equal to 5% and less than or equal to 7%. For greater than 7%, the project should be scoped and analyzed as a roadway rehabilitation project.
- 2. Concrete Pavement Rehabilitation B involves pavement grinding, **moderate** slab replacement, spall repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking between 2 and 5%.
- 3. Concrete Pavement Rehabilitation C involves pavement grinding, **minor** slab replacement, spall repair, & joint seal repair. It is for **JPCP** projects with a total number of slabs in the lane that were replaced or exhibit third stage Rigid Cracking 2% or less.
- 4. The schedule for this strategy is based on pavement that has previously been cracked, seated and overlaid. It should not be used as an alternative on rigid JPCP pavements with cracking or faulting near or above the threshold for roadway rehabilitation.