

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
FY 2015/16 Projects																			
38	San Gabriel sub Comm System	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$60,000			\$40,000			\$100,000
39	San Gabriel sub Comm System Standards	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$45,000			\$30,000			\$75,000
40	San Gabriel sub electrologic rehab	Rehab Electrologic with VHLC.; \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	San Gabriel	Signal	\$216,000			\$144,000			\$360,000
42	San Gabriel sub crossing signal and gate rehab	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	San Gabriel	Signal	\$150,000			\$100,000			\$250,000
41	San Gabriel sub signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Also includes new locks and keys. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	San Gabriel	Signal	\$90,000			\$60,000			\$150,000
44	San Gabriel sub power swich machine rehab	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	San Gabriel	Signal	\$72,000			\$48,000			\$120,000
43	San Gabriel sub battery rehab	Replace Signal System back-up battery banks and chargers at 15 highest priority locations per year. \$5,000 per location. Recurring multi-year program.	Batteries and Chargers required for Grade crossings, CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	San Gabriel	Signal	\$66,000			\$44,000			\$110,000
50	San Gabrriel culvert rehab MP 28.23	Replace 24" reinforced concrete pipe with reinforced concrete pipe on the San Gabriel Subdivision at MP 28.23.	24" pipe was constructed in 1909 and is offset at the joints due to settlement.	5	5	5	2	1	0	18	San Gabriel	Structures	\$120,000			\$80,000			\$200,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
51	San Gabriel sub ROW grading/ditching	ROW grading/ditching.	Track bed and ROW needs to be maintained to provide a base for ties and rail to sit on. Drainage must be properly conveyed away from tracks.	4	4	5	2	1	0	16	San Gabriel	Structures	\$48,000			\$32,000			\$80,000
54	San Gabriel sub tie replacement	Rehabilitate 10,700 5,000 Crossties on the San Gabriel Subdivision	Based on a review of the last crosstie work completed on subdivision. In the future, crosstie work will be determined using Machine Vision Tie inspection.	5	5	5	3	1	0	19	San Gabriel	Track	\$750,000			\$500,000			\$1,250,000
55	San Gabriel sub turnout rehab	Rehabilitate 2 1 turnout on the San Gabriel subdivision	Based on a review of the most recent inspection reports for turnouts.	5	5	5	3	1	0	19	San Gabriel	Track	\$225,000			\$150,000			\$375,000
56	San Gabriel sub track panel replacement	Replace track panels Grand and Azusa	Based on a review of the inspection reports for Grade Crossings and data from the FRA	5	5	5	3	1	0	19	San Gabriel	Track	\$180,000			\$120,000			\$300,000
52	San Gabriel sub rail grinding	Grind 11 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	San Gabriel	Track	\$119,700			\$79,800			\$199,500
58	San Gabriel sub ped xing panel replacement	Replace pedestrian crossing panels at El Monte and Pomona-North Stations	Existing crossing panels are at the end of their useful life and are not ADA-compliant.	5	5	3	2	1	0	16	San Gabriel	Track	\$30,600			\$20,400			\$51,000
65	Valley sub crossing signal rehab	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	Valley	Signal	\$200,000						\$200,000
72	Valley Sub Bridge Replacement - Design & Construction	Construction of bridge replacement of an 18' span rail top bridge on the Valley Subdivision at MP 35.75.	This bridge is an 18' span rail top structure built in 1909 and is 105 years old. It was not designed for a seismic event nor are we able to assess the rail condition without dismantling the bridge since it is encased or restrained by concrete beam or section. The replacement structure is being designed with FY13/14 rehab budget.	5	5	5	2	1	1	19	Valley	Structures	\$1,200,000						\$1,200,000
82	Valley Sub Bridge Replacement - Design & Construction	Design and construction of bridge replacement of a 6' span rail top bridge on the Valley Subdivision at MP 50.46.	This bridge is a 6' span rail top structure built in 1909 and is 105 years old. It was not designed for a seismic event nor are we able to assess the rail condition without dismantling the bridge since it is encased or restrained by concrete beam or section.	5	5	5	2	1	0	18	Valley	Structures	\$600,000						\$600,000
91	Valley sub tie replacement	Rehabilitate approximately 20,400 9,000 crossties on the Valley Subdivision between MP 66 and MP 76.	Based on a review of the last crosstie work completed on subdivision. In the future, crosstie work will be determined using Machine Vision Tie inspection.	5	5	5	3	1	0	19	Valley	Track	\$1,899,692						\$1,899,692

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
133	River sub Comm system	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$47,500	\$19,800	\$11,100	\$14,400	\$7,200	\$0	\$100,000
135	River sub electrologic rehab	Rehab Electrologic with VHLC., \$180,000 each 1 location per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	zRiver	Signal	\$85,500	\$35,640	\$19,980	\$25,920	\$12,960	\$0	\$180,000
138	River sub signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	2	21	zRiver	Signal	\$71,250	\$29,700	\$16,650	\$21,600	\$10,800	\$0	\$150,000
136	River sub crossing signal rehab	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (1 crossings @ \$125K ea) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$0	\$125,000
137	River sub crossing battery rehab	Replace Signal System back-up battery banks and chargers and improve, add capacity and quick connects to three backup generators sites at one site per year at \$75,000 per site plus 5 battery plants per year @ \$5,000 per site . Multi-year program.	Batteries, Chargers, Backup Generators required for CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$0	\$125,000
146	River sub rail grinding	Grind 7 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$60,919	\$25,394	\$14,236	\$18,468	\$9,234	\$0	\$128,250
147	River sub rail grinding - West Bank	Grind 2 track miles of rail - River sub West Bank	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$16,922	\$7,054	\$3,954	\$5,130	\$2,565	\$0	\$35,625

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
145	River sub rail grinding - East Bank	Grind 3 track miles of rail - River sub East Bank. 3,675 ft (23.2%) Zone 1, 10,410 (65.7%) Zone 2, 1,755 (11.1%) Zone 3.	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$6,523	\$2,719	\$1,524	\$1,977	\$989	\$43,268	\$57,000
153	MOW vehicle replacement	Replace 3 hy-rail and 2 MOW specialty Vehicles.	Vehicles needed to replace vehicles that have out lived useful life and stay consistant with fleet replacement plan.	5	3	3	5	3	1	20	zSystemwide	Facilies/Fleet	\$314,450	\$131,076	\$73,482	\$95,328	\$47,664	\$0	\$662,000
154	Forklift and yard cart replacement	Replace 2 forklifts and 2 Taylor Dunn yard carts.	2 forklifts and 2 Taylor Dunn carts have outlived useful life.	5	1	3	5	1	0	15	zSystemwide	Facilities	\$171,000	\$71,280	\$39,960	\$51,840	\$25,920	\$0	\$360,000
159	Complete overhaul of 30 Gen 1 rail cars	Complete overhaul of Gen 1 rail cars, including CEM components, and interior components for longer-distance trips. (30 cars @ \$1.35M/car)	Gen 1 rail cars went into service in 1992-1993 and have not had a midlife overhaul. There are 88 Gen 1 cars in the fleet.	5	5	5	5	1	1	22	zSystemwide	Rolling Stock	\$7,371,525	\$3,072,762	\$1,722,609	\$2,234,736	\$1,117,368	\$24,981,000	\$40,500,000
158	F59 PH Locomotive Overhaul	Overhaul EMD PH locomotives and upgrade to next highest tier. This is the remaining funding increment needed to complete the locomotive overhaul project budgeted in FY 2014-15. (10 @ \$2.3M/unit). This budget assumes restoration of FY 2015 funding by Metro and other counties.	OPERATING WITH OVER 1,000,000 MILES	5	5	5	5	3	1	24	zSystemwide	Rolling Stock	\$3,498,857	\$1,458,471	\$817,628	\$1,060,706	\$530,353	\$0	\$7,366,015
161	Rail Car HVAC overhaul	Rail Car HVAC Overhaul	End of lifecycle	4	2	5	5	1	1	18	zSystemwide	Rolling Stock	\$339,625	\$141,570	\$79,365	\$102,960	\$51,480	\$0	\$715,000
162	Rail Car window gasket replacement	Rail Car Window Gasket Replacement	Gaskets become brittle with age and need replacement to meet code	4	4	4	4	1	1	18	zSystemwide	Rolling Stock	\$162,688	\$67,815	\$38,018	\$49,320	\$24,660	\$0	\$342,500
163	PTC onboard replacement and software upgrades	Acquire and install PTC on board replacement parts and perform software versions changes to stay current with industry interoperable standards and regulations. 57 cab cars and 52 locomotives. Correct defects not otherwise covered by warranty. Remove ATS. Average estimated cost if \$10,000 per unit x 110 units. Multiyear recurring program.	Keep locomotive and cab car fleet reliable, interoperable and in regulatory compliance. Replace PTC hardware and software before failure.	5	4	5	3	4	3	24	zSystemwide	Signal	\$522,500	\$217,800	\$122,100	\$158,400	\$79,200	\$0	\$1,100,000
164	Train control systems software/hardware upgrades	Install new train control software versions as required by industry standards or to keep compliant with regulations. Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Keep support systems - batteries, air conditioning, alarms in state of good repair. Includes all back office train control, communication systems in the TCOSF, MOC or Melbourne facilities.	Maintain reliability, state of good repair, safety, regulatory compliance, interoperability.	4	5	5	3	4	3	24	zSystemwide	Signal	\$517,750	\$215,820	\$120,990	\$156,960	\$78,480	\$0	\$1,090,000
166	Comm system engineering/design	Perform engineering, design, special studies relative to overall Signal, Comm. PTC/Back office Systems - standards, drawings, data bases, track charts, on a System Level current. Comply with Config. Mgmt.	Keep System Level standards and as-builts current. Comply with configuration management.	4	4	4	3	4	3	22	zSystemwide	Signal	\$137,750	\$57,420	\$32,190	\$41,760	\$20,880	\$0	\$290,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
165	Signal and Comm system test equipment	Replace or upgrade signal and communication system test tools and equipment including laptops, on board PTC Hi- Rails equipment, Melbourne Signal/Comm/CIS Test Lab.	Replace or supplement special signal tools, test equipment, hi-rail equipment on system basis	4	4	4	3	4	3	22	zSystemwide	Signal	\$92,625	\$38,610	\$21,645	\$28,080	\$14,040	\$0	\$195,000
167	CIS software/hardware upgrades	Install new CIS software versions as required to keep current. Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Includes all back office CIS control, systems in the TCOSF, MOC or Melbourne facilities. Recurring Program.	Maintain reliability, state of good repair safety, ADA regulatory compliance.	4	4	4	3	4	3	22	zSystemwide	Signal	\$87,875	\$36,630	\$20,535	\$26,640	\$13,320	\$0	\$185,000
168	Systemwide CMS	Replace damaged passenger information signage and displays at stations throughout system	Existing signage and displays are 15 to 20 years old and can no longer be repaired.	4	3	5	4	1	0	17	zSystemwide	Station	\$66,500	\$27,720	\$15,540	\$20,160	\$10,080	\$0	\$140,000
169	Track measurement and testing	System wide track measurement for Machine Vision Tie Inspection, Mobile Lidar Ballast Scanning, and Ground Penetrating Radar	Data obtained using these track measuring systems gives Metrolink an accurate picture of future rehabilitation needs.	5	5	5	5	1	0	21	zSystemwide	Track	\$237,500	\$99,000	\$55,500	\$72,000	\$36,000	\$0	\$500,000
CURRENT PROPOSED FY 2015-16 REHAB BUDGET -CONSTRAINED												Total	\$20,000,000	\$5,805,780	\$3,254,756	\$5,670,586	\$2,111,193	\$25,024,268	\$61,866,582

FY 16/17 Projects

154	Gen 1 Rail Car Overhaul	Complete overhaul of Gen 1 rail cars, including CEM components, and interior components for longer-distance trips. (15 30 cars @ \$1.35M/car. \$24.0M from other sources)	Gen 1 rail cars went into service in 1992-1993 and have not had a midlife overhaul. There are 88 Gen 1 cars in the fleet.	5	5	5	5	1	1	22	zSystemwide	Rolling Stock	\$8,668,750	\$3,613,500	\$2,025,750	\$2,628,000	\$1,314,000	\$2,000,000	\$20,250,000
200	F59 PH - R Locomotive Overhaul	Overhaul the first 4 of 7 EMD PH locomotives that were previously upgraded to Tier-2 in 2008, and upgrade to Tier-4. (\$4.4M/unit, with \$1.3M/unit from other sources in FY18).	The 7 EMD PH units were upgraded to T-2 in 2008 and are reaching 10 years of life.	5	4	5	5	4	1	24	zSystemwide	Rolling Stock	\$8,360,000	\$3,484,800	\$1,953,600	\$2,534,400	\$1,267,200	\$0	\$17,600,000
84	Valley Rail Grinding	Grind 32 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Valley	Track	\$582,000						\$582,000
149	PTC On-Board Software updates, hardware repairs PTC on-board equipment Systems on 57 cab cars and 52 locomotives.	Acquire and install PTC on board replacement parts and perform software versions changes to stay current with industry interoperable standards and regulations. 57 cab cars and 52 locomotives. Correct defects not otherwise covered by warranty. Remove ATS. Average estimated cost if \$10,000 per unit x 110 units. Multiyear recurring program.	Keep locomotive and cab car fleet reliable, interoperable and in regulatory compliance. Replace PTC hardware and software before failure.	5	4	5	3	4	3	24	zSystemwide	Signal	\$522,500	\$217,800	\$122,100	\$158,400	\$79,200		\$1,100,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
150	TCOSF, MOC, Melbourne Train Control Systems - PTC, CAD, NMS, etc. train control/communication software version updates and hardware repairs .	Install new software versions as required by industry standards or to keep compliant with regulations. Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Keep support systems - batteries, air conditioning, alarms in state of good repair. Includes all back office train control, communication systems in the TCOSF, MOC or Melbourne facilities.	Maintain reliability, state of good repair, safety, regulatory compliance, interoperability.	4	5	5	3	4	3	24	zSystemwide	Signal	\$517,750	\$215,820	\$120,990	\$156,960	\$78,480	\$1,090,000	
39	Wayside Signals EL1-A Replacement- San Gabriel/Shortway	Rehab Electrologic with VHLC., \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	San Gabriel	Signal	\$216,000			\$144,000		\$360,000	
102	Ventura Rail Grinding - LA County	Grind 4.5 track miles of rail - LA County	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Ventura - LA	Track	\$171,000					\$171,000	
148	Signal,Communication Back Office Train Control System Design, Condition Studies, Engineering - Keep Drawings, Track Charts, Standards Current.	Perform engineering, design, special studies relative to overall Signal, Comm. PTC/Back office Systems - standards, drawings, data bases, track charts, on a System Level current . Comply with Config. Mgmt.	Keep System Level standards and as-builts current. Comply with configuration management.	4	4	4	3	4	3	22	zSystemwide	Signal	\$137,750	\$57,420	\$32,190	\$41,760	\$20,880	\$290,000	
50	San Gabriel Rail Grinding	Grind 11 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	San Gabriel	Track	\$119,700			\$79,800		\$199,500	
151	Replace or Upgrade System Signal Test Tools and Equipment	Replace or upgrade signal and communication system test tools and equipment including laptops, on board PTC Hi- Rails equipment, Melbourne Signal/Comm/CIS Test Lab.	Replace or supplement special signal tools, test equipment, hi-rail equipment on system basis	4	4	4	3	4	3	22	zSystemwide	Signal	\$92,625	\$38,610	\$21,645	\$28,080	\$14,040	\$195,000	
38	San Gabriel sub signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Also includes new locks and keys. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	San Gabriel	Signal	\$90,000			\$60,000		\$150,000	

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
152	TCOSF, MOC, Melbourne CIS Systems - software version updates and hardware repairs .	Install new software versions as required to keep current . Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Includes all back office CIS control, systems in the TCOSF, MOC or Melbourne facilities. Recurring Program.	Maintain reliability, state of good repair safety, ADA regulatory compliance.	4	4	4	3	4	3	22	zSystemwide	Signal	\$87,875	\$36,630	\$20,535	\$26,640	\$13,320		\$185,000
128	Wayside Signals EL1-A Replacement- - River	Rehab Electrologic with VHLC.; \$180,000 each 1 location per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	zRiver	Signal	\$85,500	\$35,640	\$19,980	\$25,920	\$12,960		\$180,000
155	Rotem Upgrade	Door Motor Overhaul	End of lifecycle	5	5	5	5	1	1	22	zSystemwide	Rolling Stock	\$84,598	\$35,264	\$19,769	\$25,646	\$12,823		\$178,100
142	River Rail Grinding	Grind 7 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$60,919	\$25,394	\$14,236	\$18,468	\$9,234		\$128,250
92	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software -Ventura-LA	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Ventura - LA	Signal	\$54,537						\$54,537
126	Wayside Communication System Replacement Parts - River	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$47,500	\$19,800	\$11,100	\$14,400	\$7,200		\$100,000
127	Wayside Communication System Design, slot planning, interference mitigation - River	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$35,625	\$14,850	\$8,325	\$10,800	\$5,400		\$75,000
140	River East Bank Rail Grinding	Grind 3 track miles of rail - River sub East Bank	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$27,075	\$11,286	\$6,327	\$8,208	\$4,104		\$57,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
283	River sub Comm System Standards	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$21,375	\$8,910	\$4,995	\$6,480	\$3,240	\$0	\$45,000
141	River West Bank Rail Grinding	Grind 2 track miles of rail - River sub West Bank	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$16,922	\$7,054	\$3,954	\$5,130	\$2,565		\$35,625
CURRENT PROPOSED FY 2016-17 REHAB BUDGET - CONSTRAINED												\$20,000,000	\$7,822,777	\$4,385,496	\$5,973,092	\$2,844,646	\$2,000,000	\$43,026,012	

FY 17/18 Projects

154	Gen 1 Rail Car Overhaul	Complete overhaul of Gen 1 rail cars, including CEM components, and interior components for longer-distance trips. (15 30 cars @ \$1.35M/car. \$24.0M from other sources)	Gen 1 rail cars went into service in 1992-1993 and have not had a midlife overhaul. There are 88 Gen 1 cars in the fleet.	5	5	5	5	1	1	22	zSystemwide	Rolling Stock	\$8,668,750	\$3,613,500	\$2,025,750	\$2,628,000	\$1,314,000	\$2,000,000	\$20,250,000
200	Locomotive Overhaul/ Upgrade	Overhaul the remaining 3 of 7 EMD F-59-Repowered locomotives that were previously upgraded to Tier-2 in 2008, and upgrade to Tier-4. (\$4.4M/unit, with \$1.3M/unit from other sources for all 7 units).	This will be required if the Board elects to overhaul existing units instead of purchase new.							24	zSystemwide	Rolling Stock	\$1,947,500	\$811,800	\$455,100	\$590,400	\$295,200	\$9,100,000	\$13,200,000
86	Valley Rail Grinding	Grind 32 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Valley	Track	\$582,000						\$582,000
244	Valley sub rail grinding	Grind 32 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Valley	Track	\$582,000						\$582,000
147	PTC On-Board Software updates, hardware repairs PTC on-board equipment Systems on 57 cab cars and 52 locomotives.	Acquire and install PTC on board replacement parts and perform software versions changes to stay current with industry interoperable standards and regulations. 57 cab cars and 52 locomotives. Correct defects not otherwise covered by warranty. Remove ATS. Average estimated cost if \$10,000 per unit x 110 units. Multiyear recurring program.	Keep locomotive and cab car fleet reliable, interoperable and in regulatory compliance. Replace PTC hardware and software before failure.	5	4	5	3	4	3	24	zSystemwide	Signal	\$522,500	\$217,800	\$122,100	\$158,400	\$79,200		\$1,100,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
148	TCOSF, MOC, Melbourne Train Control Systems - PTC, CAD, NMS, etc. train control/communication software version updates and hardware repairs .	Install new software versions as required by industry standards or to keep compliant with regulations. Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Keep support systems - batteries, air conditioning, alarms in state of good repair. Includes all back office train control, communication systems in the TCOSF, MOC or Melbourne facilities.	Maintain reliability, state of good repair, safety, regulatory compliance, interoperability.	4	5	5	3	4	3	24	zSystemwide	Signal	\$517,750	\$215,820	\$120,990	\$156,960	\$78,480	\$1,090,000	
62	Wayside Signals EL1-A Replacement- Valley	Rehab Electrologic with VHLC., \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Valley	Signal	\$360,000					\$360,000	
57	Wayside Signals EL1-A Replacement- Valley	Rehab Electrologic with VHLC., \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Valley	Signal	\$360,000					\$360,000	
221	Valley sub electrologic rehab	Rehab Electrologic with VHLC., \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Valley	Signal	\$360,000					\$360,000	
152	Track Measurement	System wide track measurement for Machine Vision Tie Inspection, Mobile Lidar Ballast Scanning, and Ground Penetrating Radar	Data obtained using these track measuring systems gives Metrolink an accurate picture of future rehabilitation needs.	5	5	5	5	1	0	21	zSystemwide	Track	\$261,844	\$109,148	\$61,189	\$79,380	\$39,690	\$551,250	
64	Wayside Signal -Grade Crossing Rehab - -Valley	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	Valley	Signal	\$250,000					\$250,000	
59	Wayside Signal -Grade Crossing Rehab - -Valley	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	Valley	Signal	\$250,000					\$250,000	
153	Track Measurement	System wide track measurement for Machine Vision Tie Inspection, Mobile Lidar Ballast Scanning, and Ground Penetrating Radar	Data obtained using these track measuring systems gives Metrolink an accurate picture of future rehabilitation needs.	5	5	5	5	1	0	21	zSystemwide	Track	\$249,375	\$103,950	\$58,275	\$75,600	\$37,800	\$525,000	
43	Wayside Signals EL1-A Replacement- San Gabriel/Shortway	Rehab Electrologic with VHLC., \$180,000 each 2 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	San Gabriel	Signal	\$216,000			\$144,000		\$360,000	
92	Wayside Signals EL1-A Replacement-Ventura	Rehab Electrologic with VHLC., \$180,000 each 1 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Ventura - LA	Signal	\$180,000					\$180,000	
91	Wayside Signals EL1-A Replacement-Ventura - LA	Rehab Electrologic with VHLC., \$180,000 each 1 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Ventura - LA	Signal	\$180,000					\$180,000	

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
259	Ventura sub - LA electrologic rehab	Rehab Electrologic with VHLC., \$180,000 each 1 locations per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	Ventura - LA	Signal	\$180,000						\$180,000
32	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software -Pasadena	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Pasadena	Signal	\$150,000						\$150,000
26	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software -Pasadena	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Pasadena	Signal	\$150,000						\$150,000
201	Pasadena sub signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Pasadena	Signal	\$150,000						\$150,000
45	Wayside Signal -Grade Crossing Rehab - San Gabriel/Shortway	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	San Gabriel	Signal	\$150,000			\$100,000			\$250,000
41	Wayside Signal -Grade Crossing Rehab - San Gabriel/Shortway	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	San Gabriel	Signal	\$150,000			\$100,000			\$250,000
60	Rehab Update CIS at Stations - Valley	Rehab field signage with Daktronic and PA at 1 station per year for next three years. \$150,000 per station. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	Valley	Communication	\$150,000						\$150,000
55	Rehab Update CIS at Stations - Valley	Rehab field signage with Daktronic and PA at 1 station per year for next three years. \$150,000 per station. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	Valley	Communication	\$150,000						\$150,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
63	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - Valley	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Valley	Signal	\$150,000						\$150,000
58	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - Valley	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Valley	Signal	\$150,000						\$150,000
222	Valley sub signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Valley	Signal	\$150,000						\$150,000
149	Signal ,Communication Back Office Train Control System Design, Condition Studies, Engineering - Keep Drawings, Track Charts, Standards Current.	Perform engineering, design, special studies relative to overall Signal, Comm. PTC/Back office Systems - standards, drawings, data bases, track charts, on a System Level current . Comply with Config. Mgmt.	Keep System Level standards and as-builts current. Comply with configuration management.	4	4	4	3	4	3	22	zSystemwide	Signal	\$137,750	\$57,420	\$32,190	\$41,760	\$20,880		\$290,000
261	Ventura sub - LA crossing signal rehab	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc. crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (2 crossings @ \$125K ea.) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	Ventura - LA	Signal	\$125,000						\$125,000
66	Wayside Signal- Power Switch Machine Rehab- Valley	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	Valley	Signal	\$120,000						\$120,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
55	San Gabriel Rail Grinding	Grind 11 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	San Gabriel	Track	\$119,700			\$79,800			\$199,500
60	Wayside Signal System Rehab - Batteries and Chargers -Valley	Replace Signal System back-up battery banks and chargers at 15 highest priority locations per year. \$5,000 per location. Recurring multi-year program.	Batteries and Chargers required for Grade crossings, CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	Valley	Signal	\$103,480						\$103,480
151	Replace or Upgrade System Signal Test Tools and Equipment	Replace or upgrade signal and communication system test tools and equipment including laptops, on board PTC Hi- Rails equipment, Melbourne Signal/Comm/CIS Test Lab.	Replace or supplement special signal tools, test equipment, hi-rail equipment on system basis	3	4	4	3	4	3	21	zSystemwide	Signal	\$92,625	\$38,610	\$21,645	\$28,080	\$14,040		\$195,000
44	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - San Gabriel/Shortway	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Also includes new locks and keys. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	San Gabriel	Signal	\$90,000			\$60,000			\$150,000
40	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - San Gabriel/Shortway	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Also includes new locks and keys. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	San Gabriel	Signal	\$90,000			\$60,000			\$150,000
150	TCOSF, MOC, Melbourne CIS Systems - software version updates and hardware repairs .	Install new software versions as required to keep current . Replace hardware that is defective or becoming obsolescent and not otherwise covered by warranty. Keep test lab current and productive. Includes all back office CIS control, systems in the TCOSF, MOC or Melbourne facilities. Recurring Program.	Maintain reliability, state of good repair safety, ADA regulatory compliance.	4	4	4	3	4	3	22	zSystemwide	Signal	\$87,875	\$36,630	\$20,535	\$26,640	\$13,320		\$185,000
102	Ventura Rail Grinding - LA County	Grind 4.5 track miles of rail - LA County	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Ventura - LA	Track	\$85,500						\$85,500

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
251	Ventura sub - LA rail grinding	Grind 4.5 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	Ventura - LA	Track	\$85,500						\$85,500
123	Wayside Signals EL1-A Replacement- - River	Rehab Electrologic with VHLC., \$180,000 each 1 location per year . Recurring multi-year program.	Replaces older (15+ years) versions of coded track circuit before failure or obsolescence is reached. Required for signals to govern train movement.	4	5	5	5	1	2	22	zRiver	Signal	\$85,500	\$35,640	\$19,980	\$25,920	\$12,960		\$180,000
142	Rotem Upgrade	Door Motor Overhaul	End of lifecycle	5	5	5	5	1	1	22	zSystemwide	Rolling Stock	\$84,598	\$35,264	\$19,769	\$25,646	\$12,823		\$178,100
93	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software -Ventura	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Ventura - LA	Signal	\$75,000						\$75,000
260	Ventura sub - LA signal replacement parts	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Ventura - LA	Signal	\$75,000						\$75,000
47	Wayside Signal- Power Switch Machine Rehab- San Gabriel/Shortway	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	San Gabriel	Signal	\$72,000			\$48,000			\$120,000
43	Wayside Signal- Power Switch Machine Rehab- San Gabriel/Shortway	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	San Gabriel	Signal	\$72,000			\$48,000			\$120,000
126	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - - River	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	2	21	zRiver	Signal	\$71,250	\$29,700	\$16,650	\$21,600	\$10,800		\$150,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
131	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software - - River	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts encountering premature failure or nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	2	21	zRiver	Signal	\$71,250	\$29,700	\$16,650	\$21,600	\$10,800		\$150,000
46	Wayside Signal System Rehab - Batteries and Chargers San Gabriel/Shortway	Replace Signal System back-up battery banks and chargers at 15 highest priority locations per year. \$5,000 per location. Recurring multi-year program.	Batteries and Chargers required for Grade crossings, CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	San Gabriel	Signal	\$66,000			\$44,000			\$110,000
42	Wayside Signal System Rehab - Batteries and Chargers San Gabriel/Shortway	Replace Signal System back-up battery banks and chargers at 15 highest priority locations per year. \$5,000 per location. Recurring multi-year program.	Batteries and Chargers required for Grade crossings, CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	San Gabriel	Signal	\$66,000			\$44,000			\$110,000
136	River Rail Grinding	Grind 7 track miles of rail	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$60,919	\$25,394	\$14,236	\$18,468	\$9,234		\$128,250
41	Wayside Communication System Replacement Parts - San Gabriel	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$60,000			\$40,000			\$100,000
36	Wayside Communication System Replacement Parts - San Gabriel	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$60,000			\$40,000			\$100,000
263	Ventura sub - LA power switch machine rehab	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	Ventura - LA	Signal	\$60,000						\$60,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
124	Wayside Signal -Grade Crossing Rehab - River	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (1 crossings @ \$125K ea) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$125,000	
125	Wayside Signal System Rehab - Batteries and Chargers - River	Replace Signal System back-up battery banks and chargers and improve, add capacity and quick connects to three backup generators sites at one site per year at \$75,000 per site plus 5 battery plants per year @ \$5,000 per site . Multi-year program.	Batteries, Chargers, Backup Generators required for CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$125,000	
129	Wayside Signal -Grade Crossing Rehab - River	Add crossing Gate Savers, rehab entrance gates, rehab predictor units, batteries, and rehab other misc crossing equipment. Modify and improve signing, striping, fencing, traffic interconnects. (1 crossings @ \$125K ea) per year. Recurring multi-year program.	Maintains necessary functionality and reliability of grade crossings	5	5	3	5	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$125,000	
130	Wayside Signal System Rehab - Batteries and Chargers - River	Replace Signal System back-up battery banks and chargers and improve, add capacity and quick connects to three backup generators sites at one site per year at \$75,000 per site plus 5 battery plants per year @ \$5,000 per site . Multi-year program.	Batteries, Chargers, Backup Generators required for CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	zRiver	Signal	\$59,375	\$24,750	\$13,875	\$18,000	\$9,000	\$125,000	
127	Wayside Signal- Power Switch Machine Rehab- River	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	zRiver	Signal	\$57,000	\$23,760	\$13,320	\$17,280	\$8,640	\$120,000	
132	Wayside Signal- Power Switch Machine Rehab- River	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	zRiver	Signal	\$57,000	\$23,760	\$13,320	\$17,280	\$8,640	\$120,000	
284	River sub power switch machine rehab	Rehab M23A Power Switch machines - \$60,000 / switch. 2 switches per year. Recurring multi-year program.	Replace before failure. Required for sidings, and crossover to function reliably.	5	3	5	4	1	3	21	zRiver	Signal	\$57,000	\$23,760	\$13,320	\$17,280	\$8,640	\$0	\$120,000
262	Ventura sub - LA battery rehab	Replace Signal System back-up battery banks and chargers at 15 highest priority locations per year. \$5,000 per location. Recurring multi-year program.	Batteries and Chargers required for Grade crossings, CP's and Intermediate Signals to function reliably and safely.	5	4	5	4	1	2	21	Ventura - LA	Signal	\$55,000						\$55,000
121	Wayside Communication System Replacement Parts - River	Acquire replacement parts including software for wayside and mountain-top communication system . Top 20 high priority parts will be identified that are encountering premature failure, nearing the end of their life cycle or are reaching functional obsolescence. 20 parts at an average unit cost of \$5,000, Install with maintenance forces. Also includes new locks and keys. No Design, Professional Services, Agency Staff required. Recurring multi-year program.	Replace communication units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$47,500	\$19,800	\$11,100	\$14,400	\$7,200		\$100,000

**METROLINK REHABILITATION PROJECTS - BY SUBDIVISION - FUNDED
LOS ANGELES COUNTY ONLY**

Constrained

1/7/2015

Line	Project Title	REHABILITATION PROJECT DESCRIPTION	PROJECT JUSTIFICATION	Priority Ranking 1=low, 5=high							Subdivision	Project Type	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER	TOTAL
				Safety (1-5)	Regulatory (1-5)	Service/Reliability (1-5)	Yearly Maintenance (1-5)	Capacity Imp (1-5)	Prior Deferrals (1-5)	Priority Total									
42	Wayside Communication System Design, slot planning, interference mitigation - San Gabriel	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$45,000			\$30,000			\$75,000
37	Wayside Communication System Design, slot planning, interference mitigation - San Gabriel	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	San Gabriel	Communication	\$45,000			\$30,000			\$75,000
122	Wayside Communication System Design, slot planning, interference mitigation - River	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$35,625	\$14,850	\$8,325	\$10,800	\$5,400		\$75,000
135	River East Bank Rail Grinding	Grind 3 track miles of rail - River sub East Bank	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$27,075	\$11,286	\$6,327	\$8,208	\$4,104		\$57,000
92	Wayside Signal and Grade Crossing Rehab Replacement Parts and Software -Ventura-LA	Acquire and install signal replacement parts including software for wayside signals, control points and grade crossing on a preventive maintenance basis. (Does not include batteries) Top 30 parts nearing the end of their life cycle will be identified and replaced. 30 parts at an average unit cost of \$5,000. Install with maintenance forces. No Design, Professional Services, Agency Staff required.	Replace signal units before failure. Identifies the highest priority 30 -60 replaceable signal units.	5	4	5	3	2	3	22	Ventura - LA	Signal	\$20,463						\$20,463
137	River West Bank Rail Grinding	Grind 2 track miles of rail - River sub West Bank	Grinding of rail head to remove imperfections and discontinuities that develop under traffic loads increases the life of the rail, decreases the probability of rail breaks, and decreases rail replacement intervals	5	3	5	5	5	1	24	zRiver	Track	\$16,922	\$7,054	\$3,954	\$5,130	\$2,565		\$35,625
283	River sub Comm System Standards	Perform annual design, engineering, or special studies to determine condition of wayside and mountain-top communication systems or revise standards and as built to keep current. Comply with Config. Mgmt. Recurring multi-year program.	Replace signal units before failure. Identifies the top 10 - 30 replaceable signal units.	5	4	5	5	2	0	21	zRiver	Communication	\$14,250	\$5,940	\$3,330	\$4,320	\$2,160	\$0	\$30,000
		PROPOSED FY 2017-18 REHAB BUDGET										Grand Total	\$20,000,000	\$5,589,585	\$3,133,555	\$4,932,952	\$2,032,576	\$11,100,000	\$46,788,668