RICHÄRD KENNEDY ARCHITECTS

MEMORANDUM

To:	Mr. Zac Koceja, PLA
	Supervising Engineer | Landscape Architect
	City of Mesa | Engineering Department
Date:	03/22/2022
Project:	Southeast Mesa Library (SEML)
Job No.:	CP0428 (CoM)

Purpose of Memorandum: Outline the projected vehicle parking demand for SEML operation & offer a proposed approach to the parking provision.

Mesa Public Library and the New Southeast Mesa Library Branch
The Mesa Public Library (MPL) system is currently comprised of a Main Library and two branch libraries (Red Mountain & Dobson Ranch). The Sotheast Mesa Library (SEML) will serve the citizens of southeast Mesa as a third MPL branch location. The SEML branch will be approximately 30,000 gross square feet (gsf), placing it between the Dobson Ranch (15,152 gsf) and Red Mountain (53,277 gsf) branches in size.

SEML will be located at 5036 South Eastmark Parkway on a 2.0 acre parcel. It is bounded by South Eastmark Parkway to the east and is adjacent to several existing privately owned & City of Mesa facilities including: BASIS Mesa School (north), the Eastmark Great Park (west & south), Eastmark Great Park Basketball Courts & 5100 S Eastmark Parkway Parking (south).

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Approach: Our approach to the data gathering, analysis, and the projection of library visits and associated parking needs is as follows -

1. **Gather Demographic & MPL System Data**
Projections of future anticipated library visits utilize 2019 data to reflect the anticipated return to pre-pandemic levels of in-person library engagement.

2. **Red Mountain Library Benchmarking**
Red Mountain is the most utilized and largest MPL branch library. 2022 data from Red Mountain Library was collected to supplement the 2019 statistics and build a mathematical model to be used for comparison and projection to SEML.

3. **SEML Projections**
Year 2030 projections are created for SEML.

4. **Existing Parking Conditions**
The existing parking conditions surrounding the SEML site are analyzed.

5. **Recommendations**
Recommendations for SEML parking provisions based upon the analysis, projections, and existing conditions.

1. **DEMOGRAPHIC & MPL SYSTEM DATA**
2019 data reported by Mesa Public Library (MPL) and published by the Arizona State Library Archives & Public Records (through the Arizona Secretary of State) is summarized below. The four-mile service radius population for Red Mountain Library was established via the demographic data prepared for MPL by ESRI Demographics and provided to our team for analysis.

Table 1a: Mesa Public Library: 2019 Population Demographics & Annual Visits

2019 Mesa Public Library Data	Population Served	Regular Users	Annual Visits	Visits per Capita	Public Hours
Mesa Public Library System	497,439	117,974	1,131,120	2.27	12,088
Red Mountain Library	175,188*	41,548	355,854	2.03	3,022

MPL staff provided electronic records of 2019 library visits to the design team. Average total daily visits by day of week and month of year were calculated (see Table 1b).

Table 1b: Red Mountain Library: 2019 Average Total Daily Visits

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MON	1,379	1,472	1,396	1,245	1,160	1,531	1,366	1,238	1,195	1,190	1,199	1,206
TUE	1,394	1,619	1,405	1,299	1,280	1,466	1,366	1,216	1,213	1,203	1,220	1,116
WED	1,364	1,503	1,441	1,342	1,196	1,376	1,307	1,275	1,354	1,220	1,238	1,140
THU	1,288	1,258	1,271	1,162	1,051	1,454	1,280	1,083	1,144	1,035	1,118	1,038
FRI	1,027	1,118	1,076	928	892	1,061	1,052	922	914	902	907	870
SAT	1,162	1,279	1,107	962	947	1,111	987	1,047	1,068	978	1,036	969

2. **RED MOUNTAIN LIBRARY BENCHMARKING**

MPL recently began tracking hourly visit data. Electronic records from 2022 were provided to the design team. The average % of total daily visitors per service hour was calculated (see Table 2a).

Table 2a: Red Mountain Library 2022 Average Hourly Visit Distribution

TIME	MON	TUE	WED	THU	FRI	SAT
1000	15.1%	13.7%	12.3%	13.5%	17.0%	17.2%
1100	11.4%	12.1%	10.3%	11.9%	13.9%	16.6%
1200	10.5%	9.2%	10.4%	10.1%	11.8%	16.6%
1300	10.1%	9.3%	13.0%	10.0%	12.7%	15.0%
1400	12.1%	10.7%	14.4%	10.5%	15.1%	12.8%
1500	13.7%	13.7%	12.4%	13.5%	16.2%	12.7%
1600	12.4%	10.7%	11.7%	13.1%	11.5%	8.6%
1700	7.1%	7.4%	7.7%	9.0%	1.7%	0.6%
1800	4.9%	5.9%	5.2%	4.9%	--	--
1900	2.5%	6.8%	1.9%	2.8%	--	--
2000	0.4%	0.4%	0.6%	0.7%	--	--

MPL staff performed visitor vehicle counts at Red Mountain Library between 2/22/2022 – 2/28/2022. Vehicles in the library parking lot were counted on Monday – Thursday from 10-11am, 3-4pm, & 5-6pm. On Friday & Saturday counts were taken between 10-11am, 2-3pm, & 4-5pm. Daily subtotals for the hours observed and the average number of vehicles per visitor is shown in Table 2b below.

Table 2b: Red Mountain Library 2022 Hourly Visitor & Vehicle Counts

TIME	MON (2/28)		TUE (2/22)		WED (2/23)		THU (2/24)		FRI (2/25)		SAT (2/26)	
	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES
1000	90	36	107	83	104	67	57	57	99	52	20	24
1400	--	--	--	--	--	--	--	--	83	41	120	72
1500	64	32	80	44	73	42	88	50	--	--	--	--
1600	--	--	--	--	--	--	--	--	67	39	67	28
1700	93	35	93	41	91	37	84	29	--	--	--	--
SUBTOTAL	247	103	280	168	268	146	229	136	249	132	207	124
AVG	0.42		0.60		0.54		0.59		0.53		0.60	

Based on the data from Table 2b, we will utilize a value of **0.57 vehicles per library visit** for the purposes of projecting number of vehicles per visitor at SEML.

3. SOUTHEAST MESA LIBRARY PROJECTIONS

Demographic data prepared for MPL by ESRI Demographics was provided to our team for analysis. The four-mile service radius population for SEML was established from the ESRI 2026 and 2030 populations projections.

Table 3a: Southeast Mesa Library (SEML): Projected Population Demographics & Annual Visits

SEML Projections	Population Served	Regular Users	Annual Visits	Visits per Capita	Public Hours
2026 Annual	74,522*	17,437	167,181	2.27	2,768
2030 Annual	89,525*	21,232	241,981	2.70**	2,768

4 mile service radius

We conservatively project that the average number of visits per capita at SEML in 2030 will be higher than the current MPL average (see Table 1a for 2019 data). This projected increase is due to a younger demographic in the SEML service area that includes a large percentage of young families (based on ESRI demographic projections) and anticipated high demand for library services in this part of southeast Mesa that is currently underserved by MPL.

The projected 2030 SEML annual visits represents approximately 68% of the 2019 Red Mountain annual visits (see Table 1a). SEML 2030 Average Total Daily Visits (Table 3b below) was created by multiplying the 2019 Red Mountain values (Table 1b) by this value of 0.68.

Table 3b: SEML 2030 Average Total Daily Visit Projections

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MON	937	1,000	948	846	788	1,040	928	841	812	809	815	819
TUE	947	1,100	954	883	870	996	928	826	824	817	829	758
WED	927	1,021	979	912	813	935	888	866	920	829	841	775
THU	875	855	864	789	714	988	870	736	778	703	760	705
FRI	698	760	731	631	606	721	715	627	621	613	616	591
SAT	790	869	752	654	644	755	670	711	725	665	704	658

A daily average total & standard deviation from this average mean was calculated for each day of the week.

Table 3c: SEML 2030 Projected Daily Visits – Mean & Standard Deviation

	Average Mean	Standard Deviation	Mean + Standard Deviation Total
MON	882	84.7	**967**
TUE	894	95.0	**989**
WED	892	71.2	**963**
THU	803	87.8	**891**
FRI	661	59.1	**720**
SAT	716	66.8	**783**

The SEML Mean + Standard Deviation Daily Visit total shown in Table 3c represents the 83rd percentile of the projected scenarios in 2030 (i.e. 83% of daily visit totals will be at or below the Mean + Standard Deviation value).

These 2030 projected daily total visit values were distributed within the SEML service hours per the hourly visit benchmarking percentages calculated from 2019 (as shown in Table 2a) to create an anticipated hourly visitor count. The ratio of 0.57 vehicles per visitor (per Table 2c) was used to provide a corresponding anticipated average vehicle count per hour (See Table 3d below) .

Table 3d: SEML 2030 Hourly Visit & Vehicle Projections
Daily Total (Mean + Standard Deviation) distributed per 2022 Red Mountain Hourly Data

TIME	MON		TUE		WED		THU		FRI		SAT	
	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES	VISITS	VEHICLES
1000	146	84	136	78	119	68	120	69	122	70	135	77
1100	110	63	120	68	99	57	106	61	100	57	130	74
1200	102	58	91	52	100	57	90	51	85	49	130	74
1300	98	56	92	53	125	72	89	51	91	52	117	67
1400	117	67	106	61	139	79	94	54	109	62	100	57
1500	132	76	136	78	119	68	120	69	117	67	99	57
1600	120	69	106	61	113	64	117	67	83	47	67	39
1700	69	39	73	42	74	42	80	46	12	7	5	3
1800	47	27	58	33	50	29	44	25	--	--	--	--
1900	24	14	67	38	18	10	25	14	--	--	--	--
2000	4	2	4	2	6	3	6	4	--	--	--	--

An hourly average vehicle total & standard deviation from this average mean was calculated for each day of the week.

Table 3e: SEML 2030 Projected Hourly Vehicles – Mean & Standard Deviation

	Average Mean	Standard Deviation	Mean + Standard Deviation Total
MON	55	22	77
TUE	56	16	72
WED	55	21	76
THU	51	18	69
FRI	51	9	60
SAT	64	14	78

The SEML Mean + Standard Deviation hourly vehicle total shown in Table 3e represents the 83rd percentile of the projected scenarios in 2030 (i.e. 83% of hourly vehicle totals will be at or below the Mean + Standard Deviation value).

4. EXISTING PARKING CONDITIONS

Existing Street Parking	85 spaces (*< 1,000 ft from SEML parcel*)
Inspirian Parkway	50
South Eastmark Parkway	35
Existing City of Mesa Parking Lot	121 spaces
Existing Surface Lot	81
Re-purposed half-courts *(potential)*	40
Total Existing Adjacent Parking	**206 spaces**

5. RECOMMENDATIONS

Through discussions with City of Mesa and Mesa Public Library staff, and in our professional opinion as experienced library designers, it is highly desirable to design the new SEML as a single-story building. This reduces initial construction and operation costs & greatly improves library staffing and services. Through design workshops with CoM and MPL staff we have developed a preliminary test fit showing a conceptual site and building planning for a 30,000 gsf SEML design (see below).

Per previous conversations with City of Mesa Parks, Recreation and Community Facilities Department (PRCF) staff member Brandon Erno, we understand that the existing surface lot parking south of the SEML site is not dedicated to specific park amenities and can be considered for a shared parking use with the new SEML.

Based upon this preliminary test fit and the previous analysis we recommend the following:

A surface parking lot providing 12-16 dedicated parking spaces for MPL staff be located at the northern portion of the site.

A surface parking lot providing 30-40 visitor parking spaces be located at the southeast corner of the site.

The existing 40 surface parking spaces at the northeast corner of the City owned parking lot be dedicated for SEML parking use, with the remaining existing spaces utilized in a shared parking agreement by the Eastmark Great Park and SEML.

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It would be highly desirable for the new SEML project to re-purpose/re-stripe the existing half-courts to provide the shared parking functions more directly adjacent to the library site. However, we understand that it is not currently desired by PRCF to re-purpose these half-courts.

We are requesting a follow-up meeting with the City of Mesa to review these recommendations and clarify the City's parking goals & requirements moving forward. Please feel free to reach out via e-mail or text to schedule a time to review together.

Best Regards,

Jeremy TS Kotter, AIA
Principal
Richärd Kennedy Architects

3.22.2022