Traffic Memorandum

To: **Town of Eagle**
Attn: Tom Gosiorowski, Public Works Director
1050 Chambers Avenue
Eagle, CO 81631

From: Kari J. McDowell Schroeder, PE, PTOE

Date: November 06, 2023

Re: **Sweet Leaf Pioneer Special Use Permit**
Trip Generation Memorandum
Eagle, Colorado

Project Background:

McDowell Engineering has prepared a memorandum summarizing the traffic impact of Sweet Leaf Pioneer Recreational and Medical Dispensary. Sweet Leaf Pioneer also has a small marijuana grow facility. The business is located at 825 Chambers Ave in Eagle, Colorado. They opened in April 2014 and have recently opened an integrated cultivator-dispensary.

Trip Generation:

The traffic generated by the Sweet Leaf Pioneer Recreational and Medical Dispensary was estimated using the Institute of Transportation Engineers' (ITE) 11th Edition of the *Trip Generation Manual*[1]. Land Use Codes (LUC) #150 – Warehouse, #882 – Marijuana Dispensary, and #190 – Marijuana Cultivation and Processing Facility were used to estimate the trips generated from the existing Sweet Leaf Pioneer Recreational and Medical Dispensary and cultivation (grow) operations.

A 5% multimodal reduction was taken, as Chambers Avenue sees frequent pedestrian and bicycle activity. It is also served by an ECO Transit park-n-ride 2,000 feet to the west.

Detailed Calculations for the trip generation analysis are included in **Table 1**.

- LUC #882 – Marijuana Dispensary (Sweet Leaf Pioneer): The average rates published by ITE for LUC #882 estimates that the 1,120sf medical and recreational sales area of the Sweet Leaf Pioneer marijuana dispensary produces 225 vehicle trips per day (vpd), including 20 vehicles per hour (vph) in the morning peak hour, 28vph in the evening peak hour, and 32vph in the Saturday peak hour.

[1] Trip Generation Manual, 11th Edition. Institute of Transportation Engineers, 2021.

- LUC #190 – Marijuana Cultivation and Processing Facility: The average rates published by ITE for LUC #190 were used to estimate the trips generated by Sweet Leaf Pioneer's grow operations. The data for LUC #190 is limited. Average weekday and Saturday peak hour rates and fitted curve equations are not provided. It is standard to use 10x the evening peak hour rate to estimate the average weekday trips generated. The evening peak hour data was used to estimate Saturday peak hour traffic. ITE average rates estimate that 6,800sf cultivation area produces 42vpd, including 5vph in the morning peak hour, 5vph in the evening peak hour, and 6vph in the Saturday peak hour.

In total, it is estimated that Sweet Leaf Pioneer is generating 267vpd, including 25vph in the morning peak hour, 33vph in the evening peak hour, and 38vpd in the Saturday peak hour.

Neighboring Property with Shared Access:

Geary Pacific Supply is a 10,800sf warehouse located north of Sweet Leaf Pioneer. The warehouse shares a Chambers Avenue access/driveway with Sweet Leaf Pioneer. Therefore, the trip generation from Geary Pacific Supply warehouse is included in the trip generation analysis to determine the total trips at the site access.

The traffic generated by the adjacent warehouse was estimated using the Institute of Transportation Engineers' (ITE) 11th Edition of the *Trip Generation Manual*[2]. Land Use Code (LUC) #150 – Warehouse was used to estimate the trips generated from the existing Geary Pacific Supply.

- LUC #150 – Warehousing (Geary Pacific Supply): The fitted curve equations and average rates published by ITE for LUC #150 estimates that a 10,800sf warehouse produces 55 vpd, including 30vph in the morning peak hour, and 22vph in the evening peak hour. Saturday peak hour data was very limited. Therefore, evening peak hour data was used to estimate Saturday peak hour traffic. Therefore, 22vph are anticipated to be generated during the Saturday peak hour.

Total Traffic at Site Access:

In total, Sweet Leaf Pioneer and Geary Pacific Supply are anticipated to produce 322vpd, including 55vph in the morning peak hour, 55vph in the evening peak hour, and 60vpd in the Saturday peak hour.

[2] Trip Generation Manual, 11th Edition. Institute of Transportation Engineers, 2021.

Table 1: Trip Generation

ITE Code	Units [2]		Eq. Coef	ITE Trip Generation Equation[3] Avg. Weekday	AM Peak Hour	PM Peak Hour	Sat. Peak Hour	Average Weekday Trips (VPD)	Morning Peak Hour Inbound % Trips	Morning Peak Hour Inbound Trips	Morning Peak Hour Outbound % Trips	Morning Peak Hour Outbound Trips	Evening Peak Hour Inbound % Trips	Evening Peak Hour Inbound Trips	Evening Peak Hour Outbound % Trips	Evening Peak Hour Outbound Trips	Saturday Peak Hour Inbound % Trips	Saturday Peak Hour Inbound Trips	Saturday Peak Hour Outbound % Trips	Saturday Peak Hour Outbound Trips
Exisitng Land Use																					
Recreation Store: #882 - Marijuana Dispensary	0.8	KSF	Type a= b=	Rate 211.12	Rate 16.57	Rate 24.57	Rate 28.85	169	54%	8	46%	7	49%	10	51%	10	50%	12	50%	12
Medical Store: #882 - Marijuana Dispensary	0.32	KSF	Type a= b=	Rate 211.12	Rate 16.57	Rate 24.57	Rate 28.85	68	54%	3	46%	3	49%	4	51%	5	50%	5	50%	5
#190 - Marijuana Cultivation and Processing Facility	6.8	KSF	Type a= b=	Rate 6.40	Rate 0.69	Rate 0.64	Rate 0.64	44	93%	5	7%	1	28%	2	72%	4	28%	2	72%	4
Multi-Modal Reduction		*-5%*						*-14*		*-1*		*-1*		*-1*		*-1*		*-1*		*-1*
Sweet Leaf Pioneer Existing Trips								**267**		**15**		**10**		**15**		**18**		**18**		**20**
#150 - Warehousing	10.8	KSF	Type a= b=	A 1.58 38.29	A 0.11 28.55	A 0.15 20.47	A 0.15 20.47	55	66%	20	34%	10	24%	5	76%	17	24%	5	76%	17
Geary Pacific Supply (Neighboring Property with Shared Access) Existing Trips								**55**		**20**		**10**		**5**		**17**		**5**		**17**
Sweet Leaf Pioneer & Geary Pacific Supply Existing Trips								**322**		**35**		**20**		**20**		**35**		**23**		**37**

Notes:

[1] Values obtained from *Trip Generation, 11th Edition,* Institute of Transportation Engineers, September 2021.

[2] DU = Dwelling Units, kSF = 1,000 Square Feet

[3] Fitted curve equations from ITE Land Uses - Equation Type A is T = a * X + b, Equation Type B is Ln(T) = a * Ln(X) + b, Rate is T = a * X

Site Access Recommendations:

Most of the site traffic is anticipated to originate from the west. If 95% of the traffic is coming from the west, the morning peak hour can anticipate a peak inbound volume of 34vph.

Chambers Avenue is a three-lane collector roadway in the vicinity of the project site. There is a two-way, left turn lane in the center of Chambers Avenue that can accommodate the left turn movement into the site access. The right turn volume does not require an auxiliary turn lane. Therefore, the existing infrastructure on Chambers Avenue can fully accommodate the Sweet Leaf Pioneer and Geary Pacific Supply's site traffic.

Summary:

Sweet Leaf Pioneer Recreational and Medical Dispensary is a small family-owned local business that sells medical and recreational marijuana. They opened in April 2014 and have recently opened an integrated cultivator-dispensary. Geray Pacific Supply is a 10,800sf warehouse that uses the same access as Sweet Leaf. Both commercial businesses are operating. Sweet Leaf Pioneer and Geary Pacific Supply are anticipated to produce 325vpd, including 55vph in the morning peak hour, 56vph in the evening peak hour, and 61vpd in the Saturday peak hour.

Please call if you would like any additional information or have any questions regarding this matter.

Sincerely,
McDowell Engineering, LLC

Kari J. McDowell Schroeder, PE, PTOE
Traffic Engineer