

降雨量與車流之關係

2022資料庫應用 期末報告

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日期：2023/1/3

大綱

研究範圍與目的

天氣與車流ER圖

資料取得方式

資料陳列與數據整理

圖表趨勢

結論

組員分工

研究範圍與目的

我們猜測降雨會影響人是否選擇開車，
想要透過數據進一步了解兩項之間的相關性。

藉由比對5/24~26與5/31~6/1的車流，
觀察降雨量與車流之關係。

選擇日期方式：

排除時段與季節因素，即選擇連續兩週的
星期二、星期三、星期四觀察，且發現5月
底至6月初連續兩週的天氣具強烈對比。

2022年臺北氣象站逐日雨量資料

單位：毫米

	一月	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月
1	T	11.0	-	T	6.0	-	-	69.5	2.0	-	15.5	
2	T	3.0	-	23.0	24.0	-	12.5	27.0	31.5	-	T	
3	-	29.0	-	10.5	T	-	T	-	35.0	-	-	
4	T	3.5	-	-	1.0	-	7.5	46.5	37.0	-	T	
5	0.5	0.5	-	-	T	-	46.0	-	1.0	14.5	T	
6	8.0	T	T	T	T	15.5	-	-	3.0	1.0	T	
7	5.0	6.5	21.5	-	-	49.5	3.0	T	-	13.5	T	
8	T	0.5	-	T	T	47.0	-	-	-	0.5	2.0	
9	T	11.0	-	-	T	7.0	-	-	-	1.0	-	
10	T	0.5	-	-	4.5	2.5	T	-	-	1.5	-	
11	6.0	-	-	T	13.0	1.5	-	T	33.0	T	T	
12	T	T	-	-	40.0	11.0	-	T	47.0	1.5	-	
13	0.5	14.0	-	-	4.5	-	-	-	26.0	0.5	-	
14	-	38.5	-	57.0	27.0	1.0	-	T	25.0	9.0	-	
15	T	0.5	-	T	15.0	8.5	-	8.0	7.5	19.0	-	
16	T	0.5	-	T	43.5	6.5	-	1.5	-	257.0	T	
17	6.0	1.0	4.0	T	8.5	-	-	-	-	4.5	-	
18	3.0	7.0	0.5	T	-	-	7.0	T	1.0	T	-	
19	0.5	15.0	-	4.0	0.5	-	3.0	T	-	T	-	
20	T	27.0	-	2.5	-	-	27.5	-	-	-	T	
21	32.5	26.5	2.5	T	1.5	-	-	-	-	1.0	-	
22	44.5	22.0	4.0	-	0.5	T	-	-	-	17.5	-	
23	T	34.0	21.5	T	T	1.0	-	-	-	4.0	-	
24	3.5	0.5	T	5.5	50.5	47.5	-	9.5	2.0	-	-	
25	-	-	0.5	6.0	123.5	18.5	-	45.5	3.0	-	-	
26	-	-	14.5	-	68.5	4.0	-	-	2.0	-	-	
27	-	-	42.0	T	45.0	13.5	-	-	-	0.5	-	
28	T	-	75.0	-	0.5	-	1.5	9.5	-	11.0	-	
29	5.5	-	11.5	-	-	-	13.5	-	-	3.0	-	
30	6.5	-	-	T	-	-	0.5	0.5	-	45.0	-	
31	T	-	-	-	8.5	-	-	1.0	-	44.0	-	
總和值	122.0	252.0	197.5	108.5	486.0	234.5	122.0	218.5	256.0	449.5	17.5	

5/24~26受滯留鋒及西南季
風影響，各地大量降雨。

5/31~6/1
降雨少或無。

研究範圍

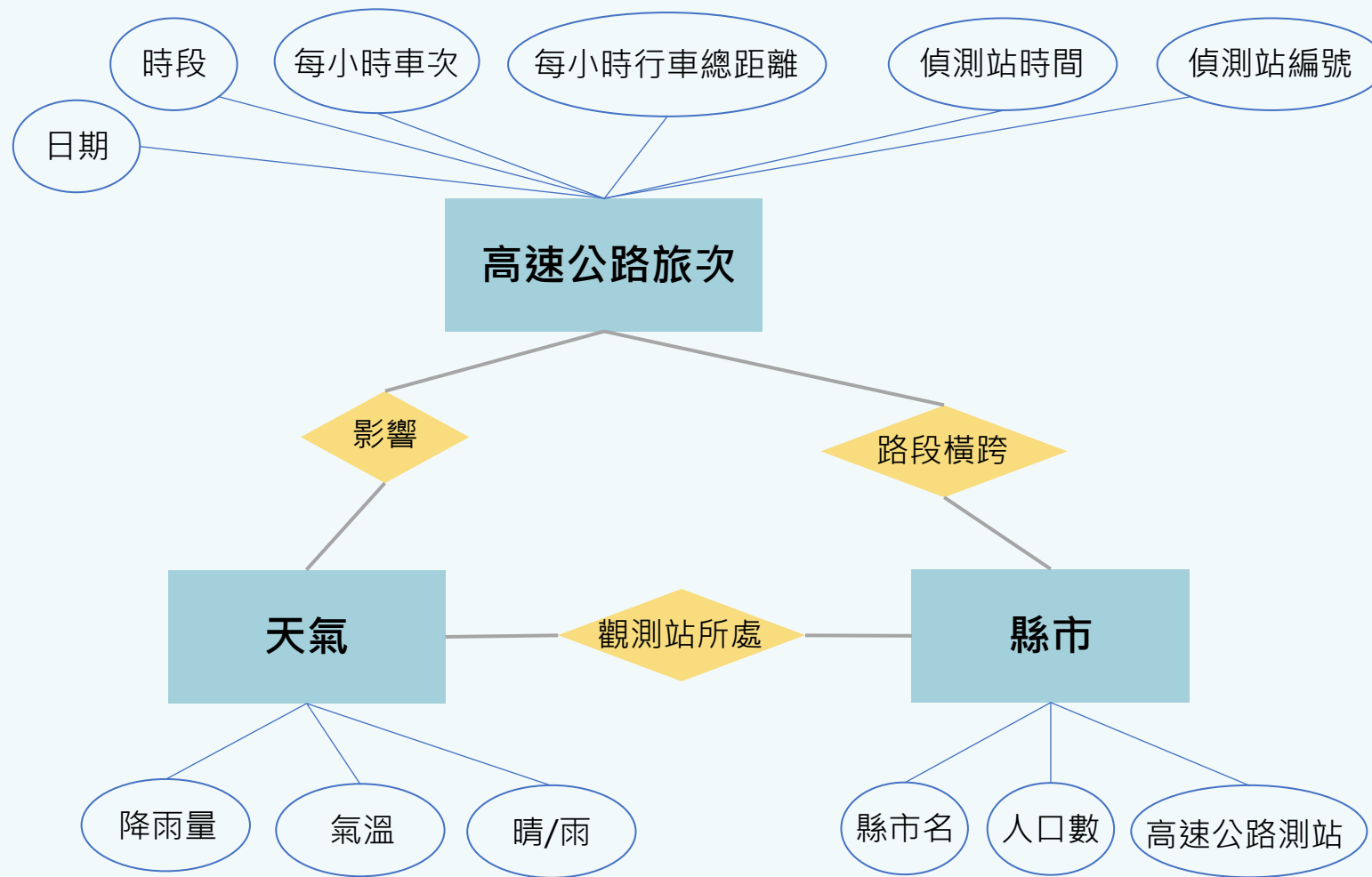
篩選7個觀測站為代表：

採用國道一、三號沿線經過之行政區當中有較詳細資料的觀測站為主——
台北、桃園、新竹、台中、嘉義、台南、高雄，共7個觀測站。

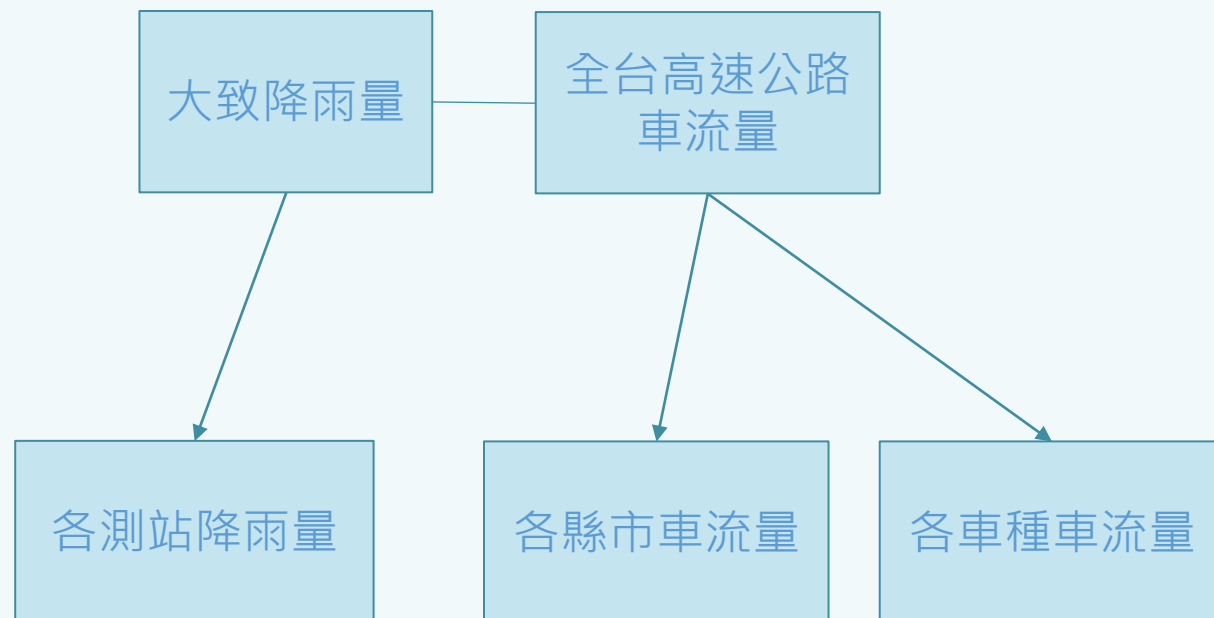


天氣測站劃分區域示意圖

天氣與車流ER圖



過程深化



一開始只觀察多降雨週以及少降雨週的全台高速公路車流變化。



後來會想知道少降雨週的車流量比較多是因哪個車種而提高車流量，以及各縣市是否明顯因當地降雨不同而影響車流量。

資料取得方式



高速公路旅次資料

交通部高速公路局交通資料庫

<https://tisvcloud.freeway.gov.tw/history/TDCS/M06A/>

政府資料開放平台

國道計費門架座標及里程牌價表(csv檔)



中華民國統計資訊網
National Statistics

110年我國人口各縣市分布統計表 - 按十歲年齡組分

	總人口數	戶籍登記現住人口按十歲年齡組分									
		0~9歲	10~19歲	20~29歲	30~39歲	40~49歲	50~59歲	60~69歲	70~79歲	80~89歲	
總計	23,375,314	1,930,161	2,057,481	3,015,966	3,356,897	3,799,848	3,592,532	3,148,856	1,598,554	718,877	
新北市	4,008,113	316,429	335,873	508,564	584,961	678,579	632,738	566,721	267,139	95,518	
臺北市	2,524,393	219,568	209,664	270,910	346,815	407,878	379,372	363,582	210,031	91,569	
桃園市	2,272,391	222,295	220,519	310,935	351,971	380,065	333,507	268,595	123,719	48,300	
臺中市	2,813,490	259,846	267,673	386,069	426,574	460,189	420,699	347,211	163,996	67,557	
臺南市	1,862,059	144,619	156,160	231,805	271,108	302,745	291,075	260,261	128,320	63,013	
高雄市	2,744,691	211,648	228,269	347,054	386,720	457,462	429,815	386,207	202,628	79,731	
基隆市	699,993	546,033	628,833	935,704	965,762	1,090,792	1,077,385	933,020	494,274	268,941	
宜蘭縣	450,692	34,220	39,229	61,739	61,318	67,704	71,744	61,508	31,371	18,345	
新竹縣	575,580	61,691	61,146	74,814	85,112	100,707	81,956	59,839	29,696	17,029	
苗栗縣	538,178	41,325	49,614	71,606	76,420	82,901	81,328	71,380	37,185	21,800	
彰化縣	1,255,330	104,621	115,102	171,520	183,961	193,176	180,764	162,374	86,656	47,805	
南投縣	484,897	32,979	41,186	65,672	64,547	69,954	77,835	70,609	37,106	20,800	
雲林縣	670,132	46,245	59,756	87,689	87,895	104,794	103,829	88,581	53,284	32,076	
嘉義縣	493,316	27,846	38,644	65,891	63,163	72,648	81,457	72,465	40,509	25,424	
屏東縣	804,440	53,695	65,446	109,036	107,940	123,122	130,811	116,791	61,718	30,585	
花蓮縣	213,386	15,515	18,839	28,514	27,644	32,678	35,321	29,698	15,813	7,647	
花蓮縣	321,358	24,533	27,729	43,197	42,433	48,904	50,956	46,002	23,856	11,182	
澎湖縣	106,340	7,671	8,126	16,385	15,448	16,199	16,043	13,982	7,350	4,122	

縣市資料

中華民國統計資訊網

<https://statdb.dgbas.gov.tw/pxweb/Dialog/View.asp?ti=&path=../OneSection/temp&lang=9&strList=L&ma=Po0101A1AT001&ViewplusIncHeader=0>



天氣資料

觀測資料查詢CODiS

<https://e-service.cwb.gov.tw/HistoryDataQuery/index.jsp>

資料陳列——(高速公路旅次資料)

DB Browser for SQLite - C:\Users\hsing\Desktop\期末小組.sqlbpro [d1128.db]		Table: M06A_20220524_00		Filter in any column	
檔案(F)	編輯(E)	查看(V)	Tools	幫助(H)	
新建資料庫(N)	打開資料庫(O)	Write Changes	Revert Changes	Open Project	Save Project
Database Structure	Browse Data	Edit Pragma	執行 SQL	Attach Database	關閉資料庫(C)
Create Table	Create Index	Print			
名稱	類型	架構			
▼ 資料表 (144)					
> M06A_20220524_00		CREATE TABLE "M06A_20220524_00" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_01		CREATE TABLE "M06A_20220524_01" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_02		CREATE TABLE "M06A_20220524_02" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_03		CREATE TABLE "M06A_20220524_03" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_04		CREATE TABLE "M06A_20220524_04" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_05		CREATE TABLE "M06A_20220524_05" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_06		CREATE TABLE "M06A_20220524_06" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_07		CREATE TABLE "M06A_20220524_07" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_08		CREATE TABLE "M06A_20220524_08" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_09		CREATE TABLE "M06A_20220524_09" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_10		CREATE TABLE "M06A_20220524_10" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_11		CREATE TABLE "M06A_20220524_11" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_12		CREATE TABLE "M06A_20220524_12" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_13		CREATE TABLE "M06A_20220524_13" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_14		CREATE TABLE "M06A_20220524_14" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_15		CREATE TABLE "M06A_20220524_15" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_16		CREATE TABLE "M06A_20220524_16" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_17		CREATE TABLE "M06A_20220524_17" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_18		CREATE TABLE "M06A_20220524_18" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_19		CREATE TABLE "M06A_20220524_19" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_20		CREATE TABLE "M06A_20220524_20" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_21		CREATE TABLE "M06A_20220524_21" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_22		CREATE TABLE "M06A_20220524_22" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220524_23		CREATE TABLE "M06A_20220524_23" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_00		CREATE TABLE "M06A_20220525_00" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_01		CREATE TABLE "M06A_20220525_01" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_02		CREATE TABLE "M06A_20220525_02" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_03		CREATE TABLE "M06A_20220525_03" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_04		CREATE TABLE "M06A_20220525_04" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_05		CREATE TABLE "M06A_20220525_05" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_06		CREATE TABLE "M06A_20220525_06" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_07		CREATE TABLE "M06A_20220525_07" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_08		CREATE TABLE "M06A_20220525_08" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_09		CREATE TABLE "M06A_20220525_09" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_10		CREATE TABLE "M06A_20220525_10" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_11		CREATE TABLE "M06A_20220525_11" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_12		CREATE TABLE "M06A_20220525_12" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_13		CREATE TABLE "M06A_20220525_13" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_14		CREATE TABLE "M06A_20220525_14" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_15		CREATE TABLE "M06A_20220525_15" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			
> M06A_20220525_16		CREATE TABLE "M06A_20220525_16" ("field1" INTEGER, "field2" TEXT, "field3" TEXT, "field4" TEXT, "field5" TEXT, "field6" INTEGER, "field7" TEXT, "field8" TEXT)			

eld	field2	field3	field4	field5	field6	eld	field8
...	過濾	過濾	過濾	過濾	過濾	...	過濾
1	31	2022-05-24 00:01:10	01F1774S	2022-05-24 00:08:39	01F1960S	24.2	Y 2022-05-24 00:01:10+01F1774S; 2022-05-24 ...
2	31	2022-05-24 00:26:22	01F1960N	2022-05-24 00:33:31	03F2100S	20.1	Y 2022-05-24 00:26:22+01F1960N; 2022-05-24 ...
3	31	2022-05-24 00:39:07	01F3640S	2022-05-24 00:39:07	01F3640S	5	Y 2022-05-24 00:39:07+01F3640S
4	31	2022-05-24 00:10:07	03F2100S	2022-05-24 00:21:05	03F2306S	22.4	Y 2022-05-24 00:10:07+03F2100S; 2022-05-24 ...
5	31	2022-05-24 00:01:34	01F1960N	2022-05-24 00:04:46	03F1941N	10.8	Y 2022-05-24 00:01:34+01F1960N; 2022-05-24 ...
6	31	2022-05-24 00:24:29	01F3640N	2022-05-24 00:27:16	01F3590N	11.2	Y 2022-05-24 00:24:29+01F3640N; 2022-05-24 ...
7	31	2022-05-24 00:10:11	01F0928N	2022-05-24 00:46:21	01H0271N	69.3	Y 2022-05-24 00:10:11+01F0928N; 2022-05-24 ...
8	31	2022-05-24 00:39:43	01F0928N	2022-05-24 00:42:46	01F0880N	11.6	Y 2022-05-24 00:39:43+01F0928N; 2022-05-24 ...
9	31	2022-05-24 00:50:12	01F0980S	2022-05-24 01:09:03	01F1292S	37.4	Y 2022-05-24 00:50:12+01F0980S; 2022-05-24 ...
10	31	2022-05-24 00:45:28	03F2985S	2022-05-24 00:50:42	03F3101S	14.2	Y 2022-05-24 00:45:28+03F2985S; 2022-05-24 ...
11	31	2022-05-24 00:57:58	01F3696N	2022-05-24 01:24:26	01F3227N	50.8	Y 2022-05-24 00:57:58+01F3696N; 2022-05-24 ...
12	42	2022-05-24 00:07:00	01F0557N	2022-05-24 00:17:37	03F0525N	20.1	Y 2022-05-24 00:07:00+01F0557N; 2022-05-24 ...
13	31	2022-05-24 00:46:29	03F2614N	2022-05-24 00:46:29	03F2614N	7.932	Y 2022-05-24 00:46:29+03F2614N
14	32	2022-05-24 00:32:28	03F3307S	2022-05-24 00:37:32	03F3392S	10.5	Y 2022-05-24 00:32:28+03F3307S; 2022-05-24 ...
15	31	2022-05-24 00:45:18	01F0005S	2022-05-24 00:56:57	03F0201S	21.4	Y 2022-05-24 00:45:18+01F0005S; 2022-05-24 ...
16	31	2022-05-24 00:04:58	01F0532S	2022-05-24 00:06:32	01F0557S	4.5	Y 2022-05-24 00:04:58+01F0532S; 2022-05-24 ...
17	31	2022-05-24 00:05:00	01F3640S	2022-05-24 00:07:54	01F3686S	7.2	Y 2022-05-24 00:05:00+01F3640S; 2022-05-24 ...
18	31	2022-05-24 00:35:16	01F0293N	2022-05-24 00:35:16	01F0293N	6	Y 2022-05-24 00:35:16+01F0293N
19	31	2022-05-24 00:04:19	03F2260N	2022-05-24 00:11:58	03F2125N	17.3	Y 2022-05-24 00:04:19+03F2260N; 2022-05-24 ...
20	31	2022-05-24 00:50:22	01F0681N	2022-05-24 00:57:47	01F0532N	16.7	Y 2022-05-24 00:50:22+01F0681N; 2022-05-24 ...
21	42	2022-05-24 00:06:11	03F0394N	2022-05-24 01:11:19	03F0338N	11.9	Y 2022-05-24 00:06:11+03F0394N; 2022-05-24 ...
22	31	2022-05-24 00:18:29	01F0467N	2022-05-24 00:24:44	01F0339N	16	Y 2022-05-24 00:18:29+01F0467N; 2022-05-24 ...
23	31	2022-05-24 00:12:57	03F1779S	2022-05-24 00:12:57	03F1779S	6.7	Y 2022-05-24 00:12:57+03F1779S
24	41	2022-05-24 00:02:23	01F3640N	2022-05-24 00:05:39	01F3590N	11.2	Y 2022-05-24 00:02:23+01F3640N; 2022-05-24 ...
25	31	2022-05-24 00:09:59	01F1123S	2022-05-24 00:36:33	01F1572S	50.2	Y 2022-05-24 00:09:59+01F1123S; 2022-05-24 ...
26	42	2022-05-24 00:44:01	01F0467S	2022-05-24 00:28:59	01F2011S	166.2	Y 2022-05-24 00:44:01+01F0467S; 2022-05-24 ...
27	31	2022-05-24 00:26:04	01F3640N	2022-05-24 00:36:11	01F3460N	25.1	Y 2022-05-24 00:26:04+01F3640N; 2022-05-24 ...
28	31	2022-05-24 00:42:35	01F0155N	2022-05-24 00:49:12	01F0061N	11.8	Y 2022-05-24 00:42:35+01F0155N; 2022-05-24 ...
29	31	2022-05-24 00:32:09	01F0339S	2022-05-24 00:38:19	01H0447S	19.4	Y 2022-05-24 00:32:09+01F0339S; 2022-05-24 ...
30	5	2022-05-24 00:26:32	01F2930N	2022-05-24 03:35:06	01F0467N	258.07	Y 2022-05-24 00:26:32+01F2930N; 2022-05-24 ...
31	31	2022-05-24 00:53:46	03F0648N	2022-05-24 01:04:33	03F0447N	25.3	Y 2022-05-24 00:53:46+03F0648N; 2022-05-24 ...
32	31	2022-05-24 00:35:31	01H0447N	2022-05-24 00:42:32	01F0339N	19.4	Y 2022-05-24 00:35:31+01H0447N; 2022-05-24 ...
33	31	2022-05-24 00:08:25	01F0005N	2022-05-24 00:08:25	01F0005N	1.1	Y 2022-05-24 00:08:25+01F0005N
34	31	2022-05-24 00:10:10	03F4168S	2022-05-24 00:15:07	03F4263S	15.3	Y 2022-05-24 00:10:10+03F4168S; 2022-05-24 ...

轉到:

數據整理 —— (五天每小時車流統計)

The image displays a screenshot of an Excel spreadsheet and a SQL query window. The Excel spreadsheet, titled "五天每小時車流統計 - Excel", shows a table with columns A through I. Column A contains time intervals from 00' to 23'. Columns B through G contain traffic flow counts for different categories (traffic_flow_0524 through traffic_flow_0602). The SQL query window, titled "執行 SQL", shows a query that unions all traffic flow data from a specific date and time range. The query results are displayed in a table with two columns: "traffic_flow" and "count".

Excel Spreadsheet Data (Columns A-G):

	A	B	C	D	E	F	G
1	times	traffic_flow_0524	traffic_flow_0525	traffic_flow_0526	traffic_flow_0531	traffic_flow_0601	traffic_flow_0602
2	00'	22904	22418	23211	24821	25163	26368
3	01'	16499	15874	16188	17417	17558	18461
4	02'	14420	13777	13260	14888	15087	15589
5	03'	14751	13807	13771	15043	15066	16055
6	04'	20141	18955	19173	20875	21391	22295
7	05'	41101	38181	38296	42358	43715	44219
8	06'	130984	125160	125331	133146	135193	131647
9	07'	246959	242323	239014	247947	250158	243393
10	08'	208079	207356	206468	212386	215097	213118
11	09'	180439	176655	179693	185057	187372	190845
12	10'	169035	165214	168522	173433	177617	184800
13	11'	157619	156485	157555	164419	167872	176815
14	12'	146219	148437	148153	153046	160007	170532
15	13'	163631	163748	160063	169623	176350	186705
16	14'	171197	168734	166213	176352	185118	194307
17	15'	172983	171437	168880	177542	186459	199607
18	16'	185499	182887	180449	190363	199577	217891
19	17'	222845	220583	218562	227725	237960	248857
20	18'	172994	175569	174028	179691	190244	209619
21	19'	124988	127375	126451	135567	143334	167657
22	20'	96706	97555	98571	104799	112933	143337
23	21'	73658	75915	77376	81351	89204	118285
24	22'	49446	51125	52647	55463	60926	84755
25	23'	32272	33747	34528	35974	38831	54268

SQL Query:

```
1 select count(field1) as traffic_flow from M06A_20220524_00 union all
2 select count(field1) as traffic_flow from M06A_20220524_01 union all
3 select count(field1) as traffic_flow from M06A_20220524_02 union all
4 select count(field1) as traffic_flow from M06A_20220524_03 union all
5 select count(field1) as traffic_flow from M06A_20220524_04 union all
6 select count(field1) as traffic_flow from M06A_20220524_05 union all
7 select count(field1) as traffic_flow from M06A_20220524_06 union all
8 select count(field1) as traffic_flow from M06A_20220524_07 union all
9 select count(field1) as traffic_flow from M06A_20220524_08 union all
```

SQL Query Results:

	traffic_flow
1	22904
2	16499
3	14420
4	14751
5	20141
6	41101
7	130984
8	246959
9	208079

統計每小時總車流
匯入至excel

9

數據整理 —— (各區每小時車流量)

DB Browser for SQLite - C:\Users\hsing\Desktop\期末小組.sqbp [d1128.db]

檔案(F) 編輯(E) 查看(V) Tools 幫助(H)

新建資料庫(N) 打開資料庫(O) Write Changes Revert Changes Open Project Save Project Attach Database 關閉資料庫(C)

Database Structure Browse Data Edit Pragma 執行 SQL

SQL 1

```
1 SELECT M06A_20220524_00.field2, M06A_20220524_00.field3, station.stat
2 FROM M06A_20220524_00
3 LEFT OUTER JOIN station
4 ON M06A_20220524_00.field3 = station.number ;
```

	field2	field3	stat
15	2022-05-24 00:45:18	01R0005S	台北
16	2022-05-24 00:04:58	01R0532S	桃園
17	2022-05-24 00:05:00	01F3640S	高雄
18	2022-05-24 00:35:16	01R0293N	台北
19	2022-05-24 00:04:19	03F2260N	台中
20	2022-05-24 00:50:22	01R0681N	桃園
21	2022-05-24 00:06:11	03R0394N	台北
22	2022-05-24 00:18:29	01R0467N	桃園
23	2022-05-24 00:12:57	03F1779S	台中
24	2022-05-24 00:02:23	01F3640N	高雄
25	2022-05-24 00:09:59	01F1123S	新竹
26	2022-05-24 00:44:01	01R0467S	桃園
27	2022-05-24 00:26:04	01F3640N	高雄
28	2022-05-24 00:42:35	01R0155N	台北
29	2022-05-24 00:32:09	01R0339S	台北
30	2022-05-24 00:26:32	01P2990N	台南
31	2022-05-24 00:53:46	03R0648N	桃園
32	2022-05-24 00:35:31	01H0447N	桃園
33	2022-05-24 00:08:25	01R0005N	台北
34	2022-05-24 00:10:10	03F4168S	高雄
35	2022-05-24 00:24:14	01R0248S	台北
36	2022-05-24 00:43:17	01F2249N	台中
37	2022-05-24 00:00:15	01R0005N	台北

Join 車流量與天氣測站的表格

ETC所在縣市

台北
新北
基隆
宜蘭

桃園
新竹
苗栗
台中
彰化
南投
雲林
嘉義
台南
高雄
屏東

天氣測站名稱

台北

桃園
新竹

台中

嘉義
台南

高雄

數據整理 —— (各區每小時車流量)

<pre>1 SELECT count(*) 2 from view053100 3 where stat='台北'</pre>	<pre>1 SELECT count(*) 2 from view053100 3 where stat='桃園'</pre>	<pre>1 SELECT count(*) 2 from view053100 3 where stat='新竹'</pre>	<pre>1 SELECT count(*) 2 from view053100 3 where stat='台中'</pre>																
<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>8981</td></tr></table>		count(*)	1	8981	<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>2765</td></tr></table>		count(*)	1	2765	<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>1649</td></tr></table>		count(*)	1	1649	<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>3519</td></tr></table>		count(*)	1	3519
	count(*)																		
1	8981																		
	count(*)																		
1	2765																		
	count(*)																		
1	1649																		
	count(*)																		
1	3519																		
<pre>1 SELECT count(*) 2 from view053100 3 where stat='嘉義'</pre>	<pre>1 SELECT count(*) 2 from view053100 3 where stat='台南'</pre>	<pre>1 SELECT count(*) 2 from view053100 3 where stat='高雄'</pre>																	
<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>890</td></tr></table>		count(*)	1	890	<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>1527</td></tr></table>		count(*)	1	1527	<table><tr><th></th><th>count(*)</th></tr><tr><td>1</td><td>3565</td></tr></table>		count(*)	1	3565					
	count(*)																		
1	890																		
	count(*)																		
1	1527																		
	count(*)																		
1	3565																		

Count各區車流量

資料陳列——(縣市資料)

DB Browser for SQLite - C:\Users\hsing\Desktop\nsg.ctao.segis.109.DBAP2022.w2.sqlite

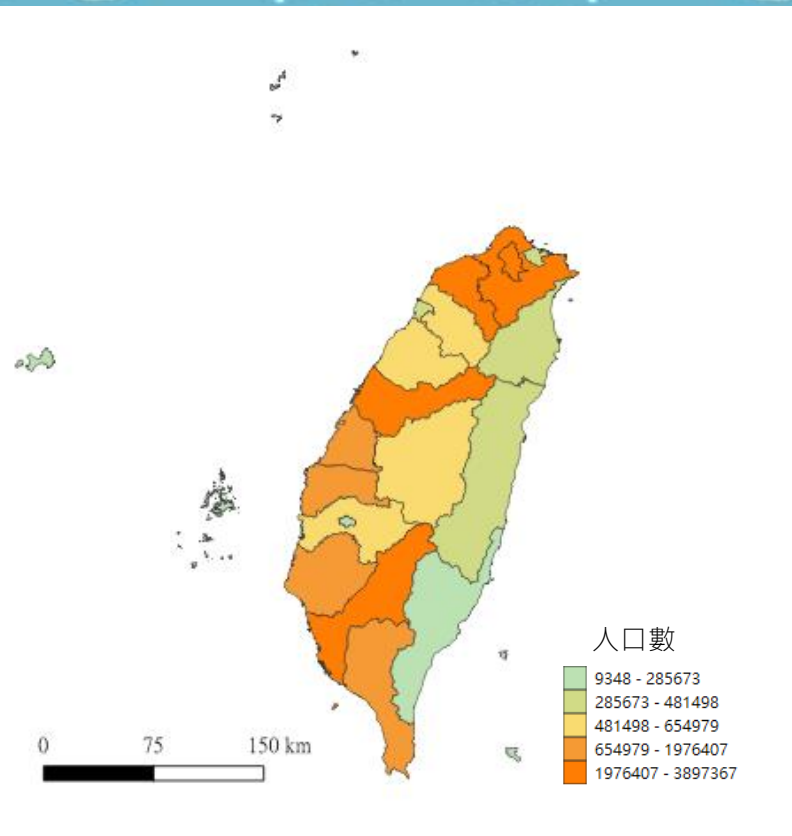
檔案(F) 編輯(E) 查看(V) Tools 幫助(H)

新建資料庫(N) 打開資料庫(O) Write Changes Revert Changes Open Project Save Project Attach Database 關閉資料庫(C)

Database Structure Browse Data Edit Pragmas 執行 SQL

Table: county_populat Filter in any column

	field1	field2	field3	field4	field5	field6	field7	field8	field9	field10	field11	field12	field13	field14	field15	field16	field17
	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾
1	cnty_name_01	cntyid_01	populat_total_01	populat_20to59_01	populat_0to9y	populat_10to19y	populat_20to29y	populat_30to39y	populat_40to49y	populat_50to59y	populat_60to69y	populat_70to79y	populat_80to89y	populat_90to99y	populat_100yup	ncity_01	motc_file_01
2	台北市	TP	2524393	1404975	219568	209664	270910	346815	407878	379372	363582	210031	91569	23923	1081	63000	TPEC
3	新北市	TI	4008113	2404842	316429	335873	508564	584961	678579	632738	566721	267139	95518	20729	862	65000	TPEH
4	基隆市	KE	363977	214351	23718	28450	48309	48486	56205	61351	56377	26489	12022	2456	114	10017	KLU
5	宜蘭縣	IL	450692	262505	34220	39229	61739	61318	67704	71744	61508	31371	18345	3432	82	10002	ILN
6	桃園市	TY	2272391	1376478	222295	220519	310935	351971	380065	333507	268595	123719	48300	12115	370	10003	TYU
7	新竹市	HS	452640	265219	50177	49184	55003	66205	80638	63373	49212	24943	11184	2631	90	10018	HCHC
8	新竹縣	HU	575580	342589	61691	61146	74814	85112	100707	81956	59839	29696	17029	3505	85	10004	HCHH
9	苗栗縣	MI	538178	312255	41325	49614	71606	76420	82901	81328	71380	37185	21800	4510	109	10005	MLI
10	台中市	TC	2813490	1693531	259846	267673	386069	426574	460189	420699	347211	163996	67557	13307	369	66000	TCHC
11	南投縣	NA	484897	278008	32979	41186	65672	64547	69954	77835	70609	37106	20800	4098	111	10008	NTN
12	花蓮縣	HN	321358	185490	24533	27729	43197	42433	48904	50956	46002	23856	11182	2483	83	10015	HLN
13	彰化縣	CG	1255330	729421	104621	115102	171520	183961	193176	180764	162374	86656	47805	9135	216	10007	OGH
14	雲林縣	YU	670132	384207	46245	59756	87689	87895	104794	103829	88581	53284	32076	5866	117	10009	YLI
15	嘉義市	CI	264727	153298	21797	26382	36329	35190	41162	40617	34202	18298	8920	1788	42	10020	CIAC
16	嘉義縣	CA	493316	283159	27846	38644	65891	63163	72648	81457	72465	40509	25424	5142	127	10010	CIAH
17	台南市	TN	1862059	1096733	144619	156160	231805	271108	302745	291075	260261	128320	63013	12674	279	67000	TNAC
18	高雄市	KO	2744691	1621051	211648	228269	347054	386720	457462	429815	386207	202628	79731	14796	361	64000	KHSC
19	屏東縣	PI	804440	470909	53695	65446	109036	107940	123122	130811	116791	61718	30585	5200	96	10013	PTN
20	台東縣	TU	213386	124157	15515	18839	28514	27644	32678	35321	29698	15813	7647	1666	51	10014	TTN
21	連江縣	LI	13645	8747	1024	978	2265	2144	2066	2272	1868	661	280	82	5	10021	LIC
22	金門縣	KI	141539	89243	8699	9512	22660	20842	20072	25669	21391	7786	3968	874	66	10022	KIM
23	澎湖縣	PE	106340	64075	7671	8126	16385	15448	16199	16043	13982	7350	4122	992	22	10016	PGH



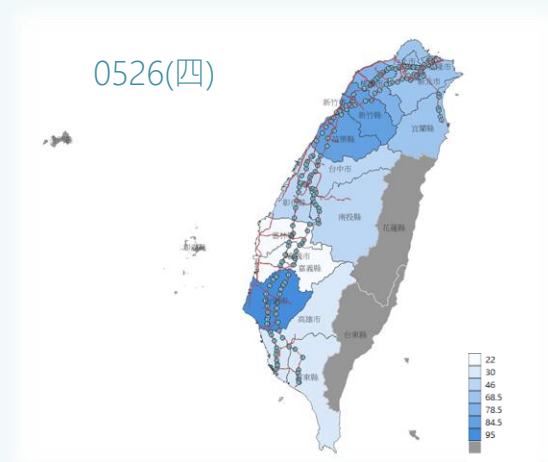
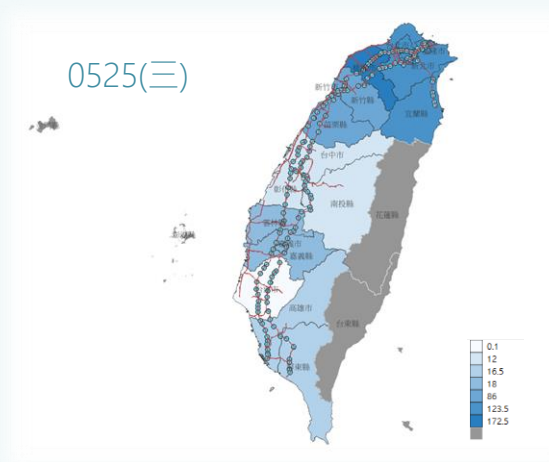
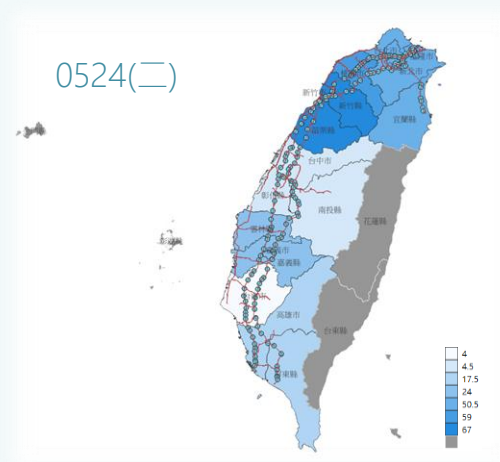
資料陳列——(天氣資料)

Banqiao0524	Banqiao0525
Banqiao0526	Banqiao0531
Banqiao0601	Banqiao0602
Chiayi0524	Chiayi0525
Chiayi0526	Chiayi0531
Chiayi0601	Chiayi0602
Hsinchu0524	Hsinchu0525
Hsinchu0526	Hsinchu0531
Hsinchu0601	Hsinchu0602
Kaohsiung0524	Kaohsiung0525
Kaohsiung0526	Kaohsiung0531
Kaohsiung0601	Kaohsiung0602
Taichung0524	Taichung0525
Taichung0526	Taichung0531
Taichung0601	Taichung0602
Tainan0524	Tainan0525
Tainan0526	Tainan0531
Tainan0601	Tainan0602
Taipei0524	Taipei0525
Taipei0526	Taipei0531
Taipei0601	Taipei0602
Taoyaun0524	Taoyaun0525
Taoyaun0526	Taoyaun0531

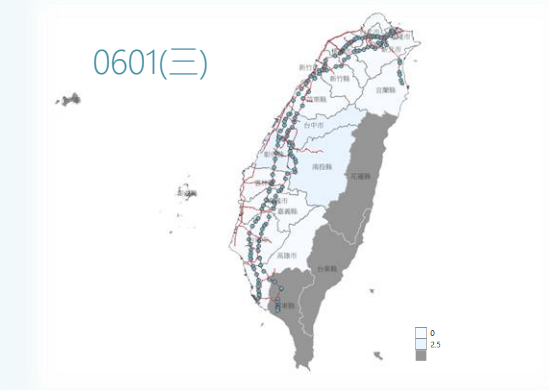
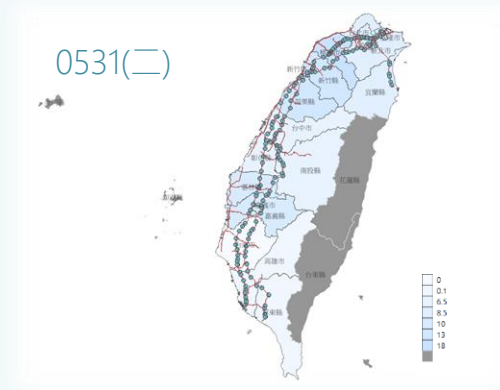
Banqiao0524 - Excel																		
檔案 常用 插入 頁面配置 公式 資料 校閱 檢視 說明																		
剪貼簿 字型 對齊方式 數值 樣式																		
A1 ObsTime																		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	ObsTime	StnPres	SeaPres	Temperature	Td dew point	RH	WS	WD	WSGust	WDGust	Precp	PrecpHour	SunShine	GloblRad	Visb	UV	Cloud Amount	
2	1	1008.8	1010.0	22.6	21.8	95	0.9	50	2.0	50	0.0	0.0	...	0.00	...	...	...
3	2	1008.7	1009.9	22.4	21.6	95	0.6	40	2.0	40	0.0	0.0	...	0.00	...	...	...
4	3	1008.5	1009.7	22.4	21.6	95	0.3	30	2.7	30	0.5	0.1	...	0.00	...	...	...
5	4	1009.0	1010.2	22.3	21.5	95	0.0	0	2.1	360	0.0	0.0	...	0.00	...	...	...
6	5	1009.5	1010.7	22.5	21.5	94	1.1	70	2.4	70	0.0	0.0	...	0.00	...	...	...
7	6	1009.9	1011.1	22.6	21.4	93	0.6	40	2.4	30	0.0	0.0	0.0	0.00	...	...	...
8	7	1010.2	1011.4	22.7	21.3	92	0.9	40	1.9	70	0.0	0.0	0.0	0.00	...	...	...
9	8	1010.2	1011.4	23.4	21.4	89	0.5	40	2.2	90	0.0	0.0	0.0	0.27	12.0	...	10.0	
10	9	1009.9	1011.1	23.6	21.6	89	0.1	0	2.3	340	T	0.3	0.0	0.47	8.0	...	10.0	
11	10	1010.1	1011.3	24.1	21.3	84	0.8	70	2.7	70	0.0	0.0	0.0	0.51	...	...	...
12	11	1009.9	1011.1	24.6	21.1	81	1.1	40	2.5	50	T	0.2	0.0	0.60	8.0	...	10.0	
13	12	1009.4	1010.6	24.1	22.2	89	1.2	60	2.3	90	T	1.0	0.0	0.56	...	...	...
14	13	1009.1	1010.3	23.7	22.0	90	1.1	80	2.5	90	T	1.0	0.0	0.26	...	...	...
15	14	1008.9	1010.1	23.6	22.1	91	0.3	30	1.9	60	T	1.0	0.0	0.11	8.0	...	10.0	
16	15	1008.9	1010.1	23.0	22.0	94	1.2	20	3.4	80	0.5	1.0	0.0	0.00	...	...	...
17	16	1009.3	1010.5	22.6	21.7	95	0.8	80	2.8	70	1.5	1.0	0.0	0.00	...	...	...
18	17	1009.3	1010.5	22.6	21.9	96	0.3	60	1.9	50	0.5	1.0	0.0	0.00	6.0	...	10.0	
19	18	1009.3	1010.5	22.5	22.0	97	1.1	70	2.6	60	1.0	1.0	0.0	0.00	...	...	...
20	19	1009.8	1011.0	22.4	21.9	97	0.6	290	1.7	60	6.5	0.6	0.0	0.00	...	...	...
21	20	1010.6	1011.8	22.5	22.2	98	0.8	250	1.6	250	4.5	0.8	...	0.00	...	...	...
22	21	1010.9	1012.1	22.3	21.8	97	0.5	180	1.6	190	4.5	0.6	...	0.00	...	...	...
23	22	1011.1	1012.3	22.4	22.1	98	0.1	0	3.5	260	4.0	0.6	...	0.00	...	...	...
24	23	1010.9	1012.1	22.3	22.0	98	0.1	0	1.8	230	10.5	1.0	...	0.00	...	...	...
25	24	1009.9	1011.1	22.2	21.9	98	1.1	190	2.7	200	12.5	1.0	...	0.00	...	...	...
26																		
27																		
28																		
29																		
30																		
31																		

圖表趨勢 —— (降雨量)

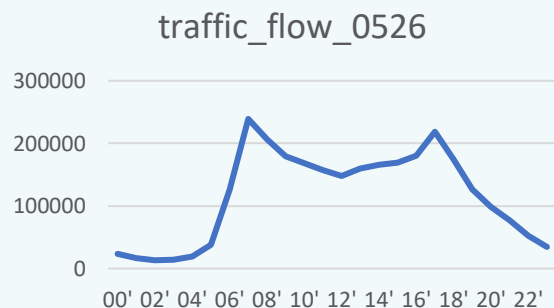
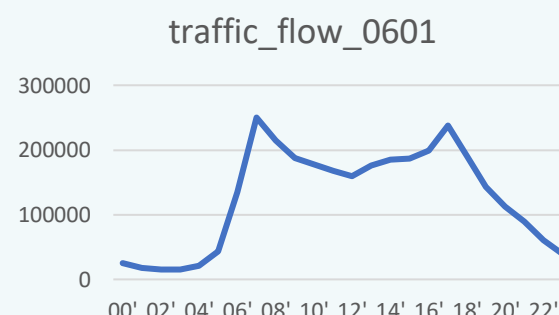
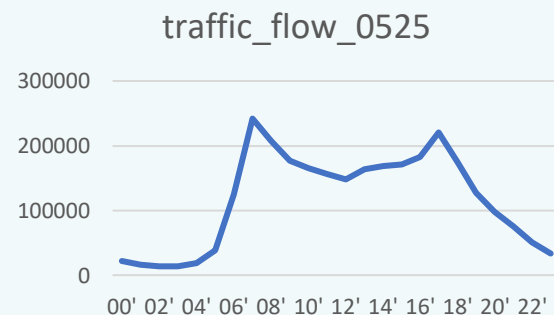
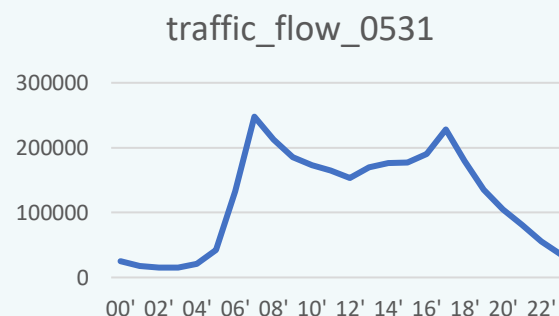
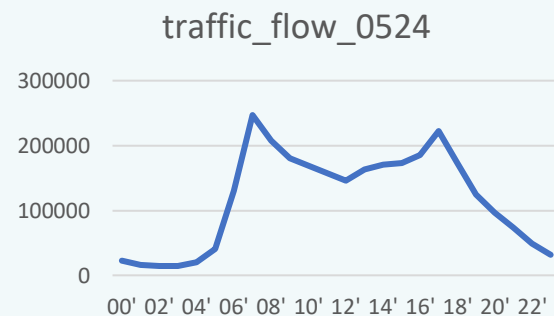
多降雨週



少降雨週

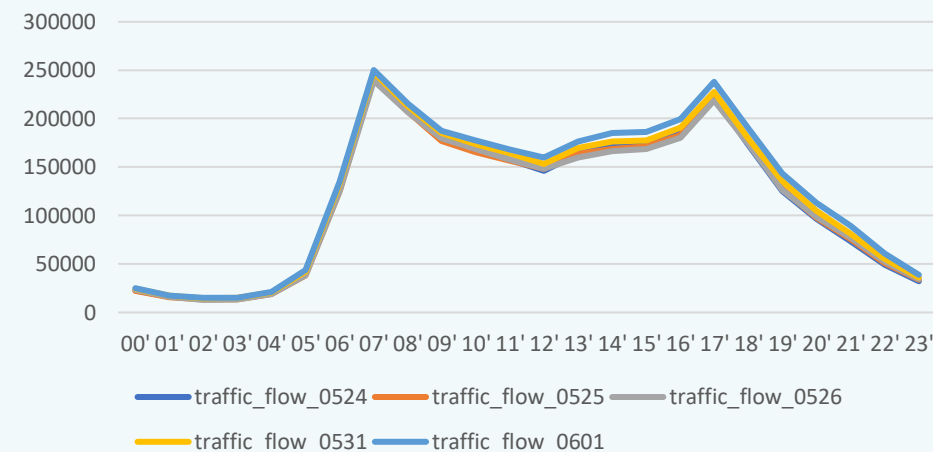


圖表趨勢 —— (五天每小時車流統計)

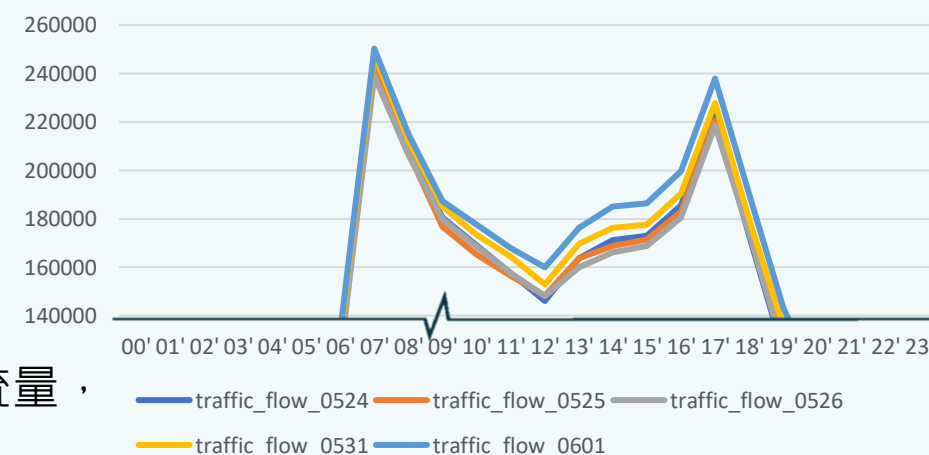


小結論：
對於上高速公路的車輛，
下雨天車流量少於沒下雨的車流量，
每小時的最大差距到20000輛。

traffic_flow_5days



traffic_flow_5days

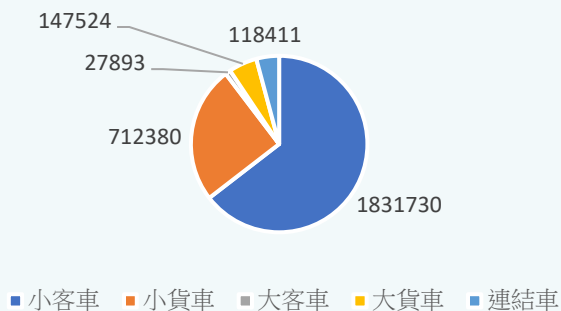


圖表趨勢 —— (各車種每日車流量)

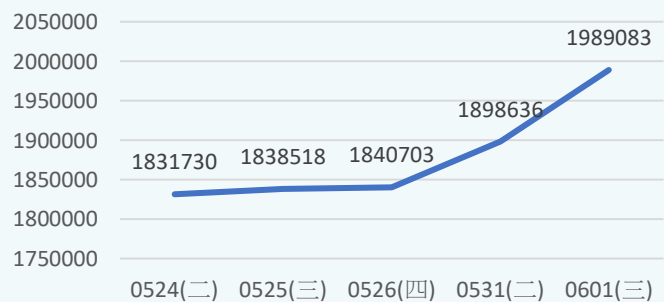
小結論：

由圖表可得出雨量較少時大客車的車流量持平甚至稍微降低，而剩下車種流量明顯上升。

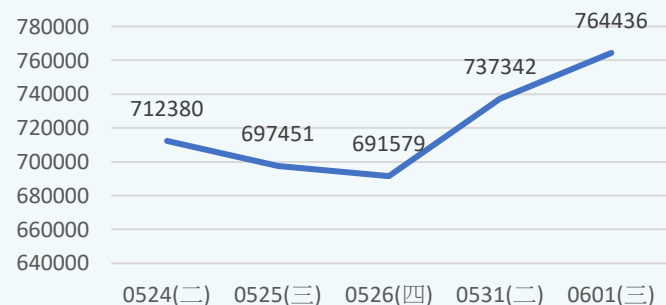
0524各車種占比



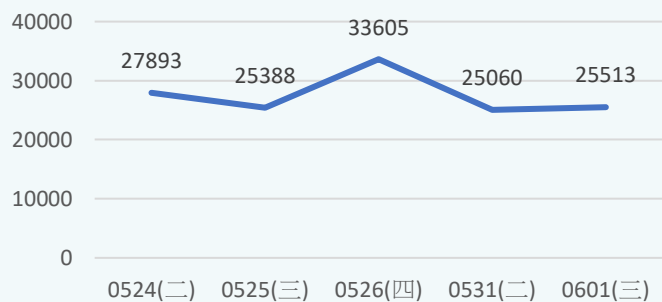
小客車



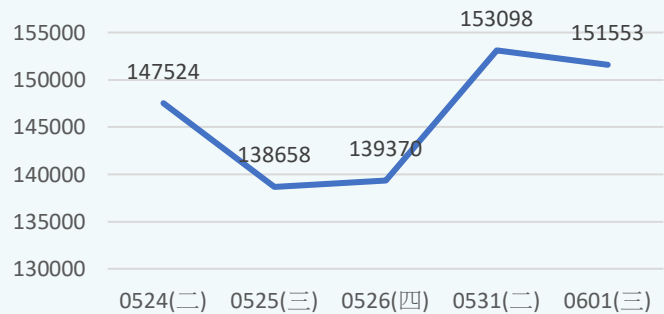
小貨車



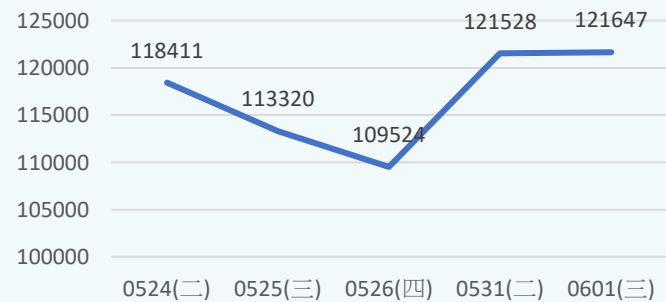
大客車



大貨車



連結車

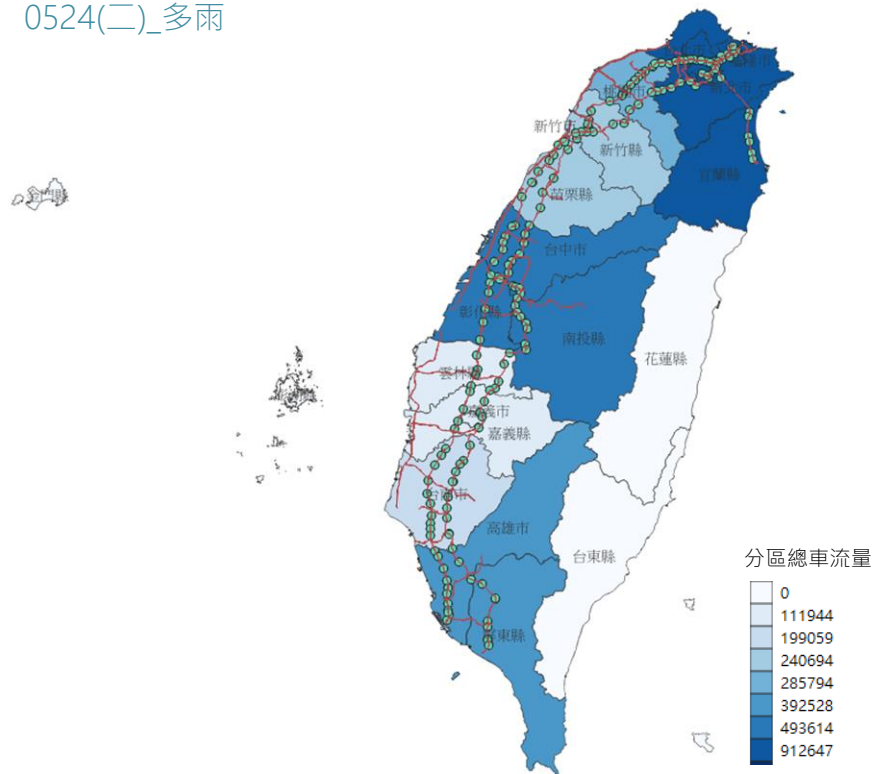


圖表趨勢 —— (分區車流量)

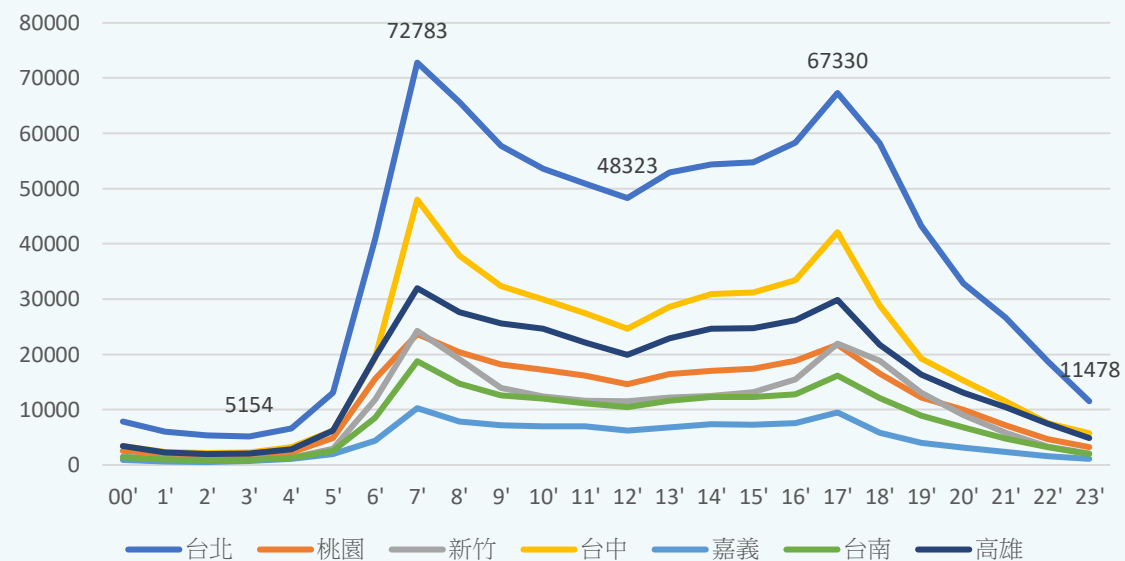
小結論：

6:00~8:00以及16:00~18:00為車流尖峰，
其中台北、台中、高雄為車流量較多的縣市。

0524(二)_多雨



0524每小時車流量

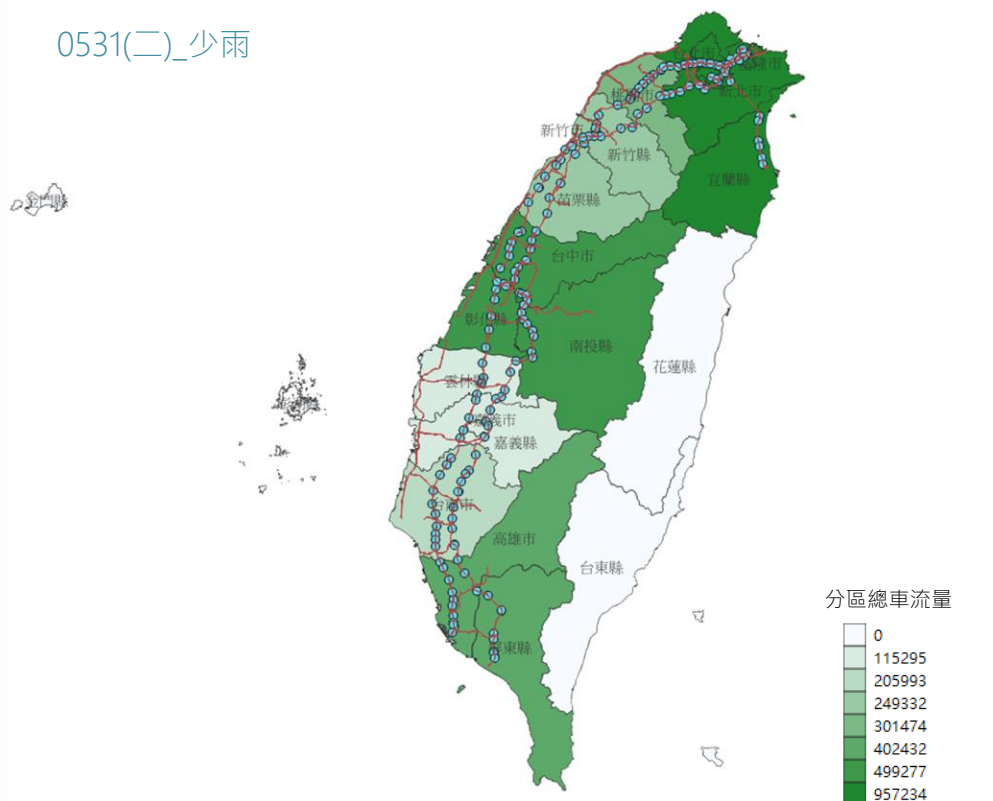


圖表趨勢 —— (分區車流量)

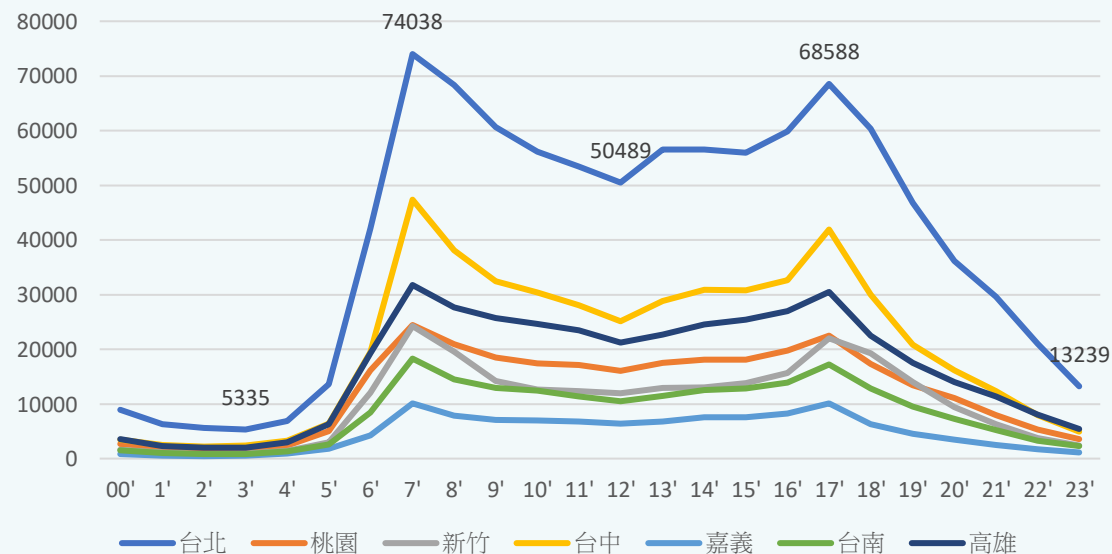
小結論：

相較於上張多雨週的圖表，此圖表總體車流量上升，並且尖峰時段上升幅度小於非尖峰時段。

0531(二)_少雨



0531每小時車流量



結論

1. 下雨天之車流量會少於沒下雨的車流量
2. 大客車之車流相較於其他車種在下雨天時反而有上升趨勢
3. 尖峰時段之車流量差會小於非尖峰時段之車流量

組員分工

李星蓉

資料蒐集、數據處理與圖表製作、簡報製作

陳愉心

題目發想、觀察圖表做結論、上台報告

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名稱 ↓	擁有者	上次修改時間	檔案大小
整理過的數據	我	2022年12月11日	—
原始數據_M06A	我	2022年12月11日	—
原始數據_天氣	我	2022年12月18日	—
期末小組.sqbpro	我	2022年12月11日	74 KB
小組報告.pptx	我	凌晨1:07	2.3 MB



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