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## IMPRESSIONS OF BIGUEÑOS IN THE WORLD HERITAGE CITY OF VIGAN TOWARDS PEDESTRIANIZATION

**Franklyn T. AMISTAD, MSCE**  
Assistant Professor  
Research and Development Office  
University of Northern Philippines  
Vigan City, Ilocos Sur  
Email: [framisteo@yahoo.com](mailto:framisteo@yahoo.com)

**Remedios Ralleta NAVARRO, Ph.D.**  
Professor I  
Professor of English  
College of Engineering  
University of Northern Philippines  
Vigan City, Ilocos Sur  
Email: [remiephd98@yahoo.com](mailto:remiephd98@yahoo.com)

**Abstract:** Pedestrianization is a new on traffic management practice in Vigan City, a world heritage site. This was established as an alternative to motorized transportation among Bigueños. This paper focuses on the characterization of the traffic condition of the city and it reveals findings of the explorative study conducted relative to the linkages and trips of pedestrians( origin-destination). A user perception survey was administered to street users to determine their personal and travel characteristics. The level of acceptance of safety rules in crossing a street or intersection was found to be Very High; the impressions of the residents of Vigan City towards pedestrianization is High. The findings of this study suggest that walking practices in a city declared as a world heritage site are meaningful in the context of preserving the culture and values of Bigueños.

The city government of Vigan should encourage the use of non-motorized vehicles and eliminate conflict among pedestrians and drivers; adopt an environmentally sustainable transport system; and promote a city that provides public safety and is pedestrian-friendly. It is worth recommending that the City government of Vigan should also enact an ordinance for the implementation of a “Give way to pedestrians” policy in all the streets in the heart of Vigan City.

Key Words: Pedestrianization, linkages and trips of pedestrians, transport mode

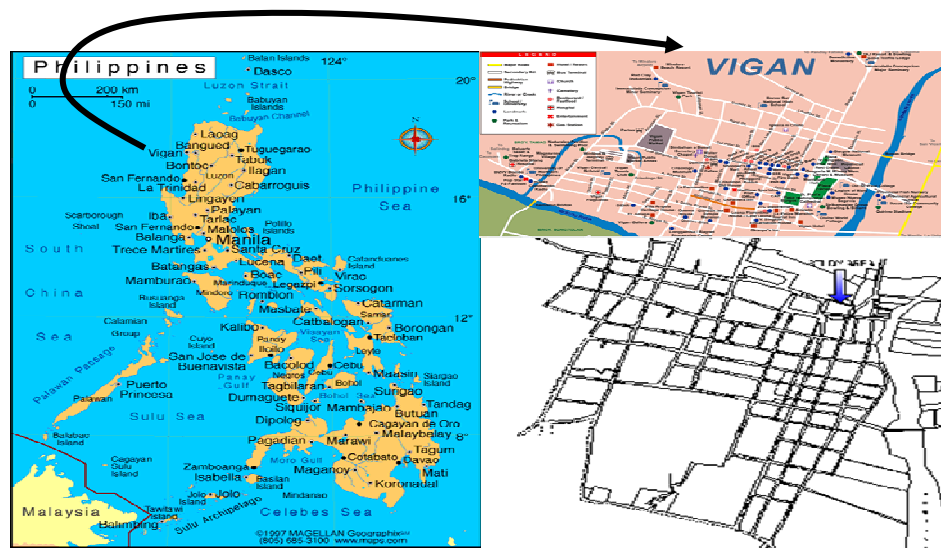
### 1. INTRODUCTION

#### 1.1 History and Characteristics of Vigan City

Vigan City, formerly called Ciudad Fernandina, is one of the oldest towns in the Philippines. Historic houses, statues, monuments, and other landmarks lie along the narrow and paved streets of Vigan. The architectural legacy of these structures have been preserved by the Bigueños. The location of the city is shown in Figure 1.

Now that it has become a City and a Heritage Village, its population has significantly increased and this caused the inexorable growth of different modes of transportation which in turn brings about traffic congestion. This problem posed a challenge to the

local government units (LGUs) and planners to formulate traffic management schemes to ease the congestion woes of the City. To address the problem of congestion, the City government enacted an alternative transport mode, the Pedestrianization Scheme, enforced on Saturdays and Sundays which limits the volume of vehicles around Plaza Burgos to reduce air and noise pollution in the area. Thus, on Saturdays and Sundays, Bigueños and visitors who patronize the business establishments around Plaza Burgos have to walk to their destination which enables them to enjoy the ambiance of the heritage site..



**Figure 1. Location Map of Vigan City**

## 1.2 Objectives of the Study

The study focused on the characterization of pedestrianization in the heritage city of Vigan.

The specific objectives of the study are the following:

1. Characterize the traffic conditions of the area under study
2. Determine the linkages and trips of pedestrians
3. Determine the profile of the residents in Vigan City
4. Determine the Level of acceptance of the safety rules in crossing a street or intersection in Vigan City
5. Determine the frequency of visiting the Central Business where pedestrianization is implemented
6. Determine the mode of transport used in reaching the facilities adjacent to or around Plaza Burgos
7. Identify the purpose of travel to the Central Business District
8. Determine the level of impressions of Bigueños towards pedestrianization

9. Derive the significant difference between the level of acceptance of the safety rules in crossing a street or intersection and the level of impressions of Bigueños towards pedestrianization.

## 2.0 RESULTS AND DISCUSSION

### 2.1 Characteristics of the Traffic Conditions of the Area Under Study

The area under study are the streets surrounding Plaza Burgos which are the subjects of the Pedestrianization Scheme during Saturdays and Sundays including local festivals such as Viva Vigan and Semana Santa. (Figures 2, 3, and 4)

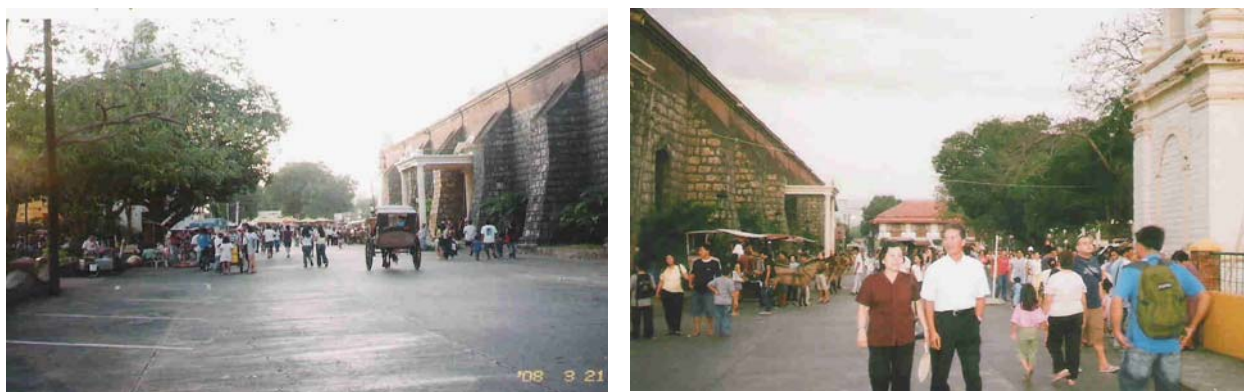


Figure 2. Actual Traffic Situation at Burgos Street which is adjacent to Plaza Burgos and Saint Paul Cathedral, Vigan City during the Conduct of the Pedestrian Survey on March 9, 2008



Figure 3. Typical Situation of Plaza Salcedo and Plaza Burgos during Semana Santa or Holy Week, March 21, 2008



Figure 4. Typical Situation at Plaza Burgos and Crisologo Street (part of the heritage village) during the Local Festival, Viva Vigan, May 2, 2008

The scheme is the extension of the Zone Access Control (Z. A. C) as included in the transportation component of the Vigan Master Plan. The development of strict traffic policies was strongly recommended for the central business district (CBD) and center of the cultural heritage. The purpose of Z.A.C. is to improve the environment as portal to future tourism in the city and socio-cultural development. The Z.A.C limit the motor vehicles including scooters and tricycles to enter Crisologo Street, the center of ancestral house. The said policy is flexible to allow different levels of access for pedestrians and non-motorized vehicles such as “calesa”. Crisologo street.

During weekdays the streets surrounding Plaza Burgos experience traffic congestion as well as other traffic problems associated with a developing city because the area is within the central business district and other vital installations in the heritage city.

Since the one-way scheme is one of the traffic management practices in the city aimed at reducing conflicts between vehicles and to increase the capacity of the road, it requires more time and distance for the commuter to reach his destination because of the limited distribution of the roads in the area. As observed, the practice of some drivers to demand exorbitant fares from the passengers is a violation of the traffic ordinance because there is a standard fare set to be charged from passengers corresponding to the distance traveled. Another observation is that there are lesser chances for passengers to cross a continuously moving traffic. Although there are pedestrian lanes and lane markings to direct the drivers and pedestrians, some drivers do not give way to the pedestrians for them to cross the streets. Traffic enforcers are visible in the area to control and man the traffic situation as well as provide safety and assistance to the Bigueños and visitors.

Meanwhile, with the practice of pedestrianization, barriers are placed as informative signs to remind motorists not to ply around Plaza Burgos. As a result drivers and pedestrians take longer trips to reach their destinations. Although walking is good for the body, pedestrianization has adverse effects on the health of senior citizens and disabled persons. They get tired before they could reach the facilities they want to visit; they are left with no sidewalks available for them to separate from the vehicles.

The number of vehicles in Vigan City is reflected on Table 1. This is based on the records of the city agreement.

Table 1. Number of Registered Vehicles of Vigan City, Year 2003 to 2007

Mode of Transportation	Year									
	2003		2004		2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Bus	151	3.82	165	4.13	165	4.17	179	4.54	172	4.38
Mini-bus	179	4.53	170	4.26	170	4.29	148	3.75	141	3.59
Tricycle	3510	88.91	3510	87.95	3509	88.61	3509	88.90	3509	89.31
Calesa	108	2.74	146	3.66	116	2.93	111	2.81	107	2.72
Total	3948		3991		3960		3947		3929	
		100		100		100		100		100

Source: CPDO Vigan

## 2.2 Linkages and Trips of Pedestrians

Linkages are frequently occurring combinations of two types of facilities during the trips of pedestrians. Table 2 presents an overview of occurring linkages in the form of origin-destination matrix. The table shows the direction of pedestrian flows (i.e. from F1 to F2 versus from F2 to F1) and the proportion of the total pedestrians during the conduct of the pedestrian survey. An asymmetric relation can be found regarding linkage directions such as between categories “restaurant/fast food or food stall” and “church” ; this is about 30% of those who visited the church during the four-hour pedestrian survey on Sunday, March 9, 2008 while 34% proceeded to restaurant/fast food or food stalls after coming from the church. Considering the transport facilities where people enter and leave the facilities at the CBD, Table 3 shows that there are differences between the average number of pedestrian stops during the weekdays and Saturdays/Sundays for the month of March 2008. Whereas the stops of pedestrians during weekdays have relatively high chances of being made at department stores, supermarts, or shopping centers. Saturdays/Sundays show relatively high percentages for the categories “Hotel” and Restaurant/Fastfood or stall.

With the present configuration of the CBD of Vigan City where department stores, supermarkets or shopping centers, and other facilities are relatively located adjacent to each other, the people can walk to these facilities. The usual practice of the people who visit the place using their vehicles find parking slots near the facilities to have a shorter route to walk. Table 6 exhibits the volume of vehicles parked on streets near the facilities around Plaza Burgos and other vital installations in the CBD of Vigan City.

**Table 2. Origin-Destination of Pedestrians Between Facility Types during the Two-Hour Period in the Morning and Afternoon on April 9, 2008**

ORIGIN	DESTINATION																							
	Restaurant/ Fast Foods/Food Stalls						Department Stores/Super Mart or Shopping Centers						Leisure/Tourism Facilities						Hotel					
	10-11	11-12	3-4	4-5	Total	%	10-11	11-12	3-4	4-5	Total	%	10-11	11-12	3-4	4-5	Total	%	10-11	11-12	3-4	4-5	Total	%
Restaurant/ Fast Foods/Food Stalls	140	60	108	160	468	18.01	68	39	79	41	227	11.34	61	30	146	158	395	13.79	2		3	10	15	20
Department Stores/Super Mart or Shopping Centers	103	26	48	158	335	12.89	62	140	38	128	368	18.38	46	38	89	101	274	9.56						
Leisure/Tourism Facilities	195	90	131	247	663	25.52	78	104	130	115	427	21.33	55	63	68	98	284	9.91	18	14	8	3	43	57.33
Hotel	19	13	17	5	54	2.08	8	11	19	15	53	2.65	15	25	8	10	58	2.02	2				2	2.67
Church	88	210	310	278	886	34.10	180	39	130	276	625	31.22	216	418	476	316	1426	49.77						
Others	51	74	22	45	192	7.4	69	73	68	92	302	15.08	86	38	140	164	428	14.95	4	6	5		15	20
Total	596	473	636	893	2598	100	465	406	464	667	2002	100	479	612	927	847	28.65	100	26	20	16	13	75	100
% of Total	5.39	4.27	5.75	8.07	23.48		4.20	3.67	4.19	6.04	18.10		4.33	5.53	8.38	7.66	25.9		0.23	0.18	0.14	0.13	0.68	

Table 2 continued.....

ORIGIN	DESTINATION												Grand Total	Percent
	Church						Others							
	10-11	11-12	3-4	4-5	Total	%	10-11	11-12	3-4	4-5	Total	%		
Restaurant/ Fast Foods/Food Stalls	142	38	182	140	502	29.69	30	40	80	143	293	15.99	1900	17.17
Department Stores/Super Mart	75	18	98	52	243	14.37	58	74	76	88	296	16.16	1516	13.70
Leisure/Tourism Facilities	92	63	180	283	619	36.60	81	58	86	120	345	18.83	2381	21.52
Hotel	10	10	11	10	41	2.42	20	23	29	22	94	5.13	302	2.73
Church							88	90	276	130	584	31.88	3521	31.83
Others	64	93	86	43	286	16.92	72	41	58	49	220	12.01	14.43	13.05
Total	383	222	557	528	1691	100	349	326	605	55	1832	100	11063	
% of Total	3.46	2.01	5.03	4.78	15.28		3.15	2.95	5.47	4.99	16.56			100

The following tables are based on the responses of the 480 residents of Vigan City. They were randomly selected based on the 46,005 population of the city for the year 2005. The number of respondents was determined through *Slovin's* formula. The survey was conducted on April 10 to 16, 2008 from the different barangays of the city of Vigan.

### 2.3 Profile of the Residents

The profile of the respondents is shown on Table 3. The female respondents (274 or 57%) dominated the male respondents (206 or 43%). Majority (345 or 72%) of the respondents are 15-44 years old, 241 or 50% are single while 219 or 46% are married. Most of them (227 or 47%) do not have children, 147 or 31% are college graduates, 158 or 33% have income greater than 3,000 pesos monthly.

Table 3. Profile of the Residents of Vigan City

Profile	No.	%
<b>Sex</b>		
Male	206	42.92
Female	274	57.08
<b>Age</b>		
0-14	9	1.88
15-29	234	48.75
30-44	111	23.12
45-59	70	14.58
60 and above	56	11.67
<b>Civil Status</b>		
Single	241	50.21
Married	219	45.62
Separated	5	1.04
Single parent	1	0.21
Widow/ er	14	2.92
<b>No. of Children</b>		
1-2	96	20.00
3-4	88	18.33
5-6	44	9.17
7-8	17	3.54
9-10	8	1.67
none	227	47.29



Table 2 continued .....

Educational Attainment	No.	%
Elementary level	8	1.67
Elementary graduate	20	4.17
High School Level	62	12.92
High School graduate	121	25.21
College level	117	24.37
College graduate	147	30.62
Post graduate	5	1.04
Average monthly income		
> 20,500	4	0.83
17,001-20,500	5	1.04
13,501-17,000	8	1.67
10,001-13,500	25	5.21
6,501-10,000	36	7.50
3,001-6,500	80	16.67
3,000 or below	175	36.46
No response	147	30.62

#### 2.4 Level of Acceptance of the Safety Rules in Crossing a Street or Intersection in Vigan City

The level of acceptance of the safety rules in crossing a street or intersection in Vigan City is presented on Table 4. The acceptance of most of the safety rules is very much needed. Meanwhile as a whole, a very high level of acceptance was attained as justified by a mean value of 4.24 on the safety rules in crossing a street or intersection. This means to say that the respondents fully accept the implementation of the safety rules because it is very much needed.

**Table 4. Level of Acceptance of the Safety Rules in Crossing a Street or Intersection**

Safety Rules	Mean	Descriptive Rating
Look both ways	4.48	Very much needed
Stop before crossing	4.41	Very much needed
Listen and watch for traffic coming	4.45	Very much needed
Always walk keep on walking	2.94	Needed
Look both ways more than once	4.32	Very much needed
Select the right place to cross	4.75	Very much needed
Look behind	4.22	Very much needed
Cross at crosswalk/pedestrian lane	4.35	Very much needed
<b>As a whole</b>	<b>4.24</b>	<b>Very high</b>

## 2.5 Frequency of Visiting the Central Business where Pedestrianization is Implemented

Table 5 presents the frequency of visiting the Central Business District (CBD) around Plaza Burgos where pedestrianization is implemented. It was found out that about 49% or 234 of the respondents visited the area once (1). Most of the respondents have the chance to visit the area where pedestrianization is implemented twice (2) or more.

Table 5. Frequency of Visiting the Central Business District (CBD) Around Plaza Burgos where Pedestrianization is Implemented

Frequency	No.	%
One (1)	234	48.75
Twice (2)	123	25.63
Three times (3)	82	17.08
Four times (4)	41	8.54
Total	480	100

## 2.6 Transport Mode

The transport mode used in reaching the facilities adjacent to or located around Plaza Burgos is shown on Table 6. It is indicated on the table that tricycle is the most used mode of transportation as responded by 319 or 67% of Bigueños. There are 62 or 13% rides on the single motorcycle in going to the different facilities at the CBD, while 58 or 12% replied that they prefer walking in going to the CBD, the locale of the study. These may be the Bigueños from the barangays near Plaza Burgos.

Table 6. Transport Mode Used in Reaching the Facilities Adjacent to or Located Around Plaza Burgos

Mode of Transportation *	No.	%
Walking	58	12.08
Bicycle	2	0.42
Calesa	12	2.50
Single Motorcycle	62	12.92
Tricycle	319	66.46
Car	36	7.50
Others	4	0.83

- Multiple responses

## 2.7 Purpose of Travel

The purposes of travel of the residents of Vigan City to the central business district adjacent to or around Plaza Burgos is shown on Table 7. Majority of the residents revealed that they visited the CBD to attend a mass as reported by 281 or 59%. Less

than 50% of them as reflected on the table go to the place for recreation, socialization, or eating. Others would go for shopping and tourism/leisure as reported by 105 or 22% and 63 or 14%, respectively.

Table 7. Purpose of Travel to the Central Business District Adjacent to or Around Plaza Burgos

Purposes*	No.	%
Attend mass	281	58.54
Shopping	105	21.88
Tourism/Leisure	63	13.12
Recreation/Social/Eating	197	41.04
Others	30	6.25
*Multiple Responses		

## 2.8 Level of Impressions of Bigueños Towards Pedestrianization

The level of impression of Bigueños towards pedestrianization being implemented around Plaza Burgos is presented in Table 9. It is indicative that impressions indicated are accepted by the Bigueños as justified by the mean that ranges from 3.96 to 4.16 which can be described as much needed. As a whole, the impressions towards pedestrianization has a over all mean of 4.12 which can be concluded High acceptability.

Table 9. Level of Impression of Bigueños Towards Pedestrianization

Impression	Mean	Descriptive Rating
I like walking	4.126	Much needed
Walking is a smart activity to improve my well being	4.25	Very much needed
I am willing to walk short distances in daily life	4.10	Much needed
I like to walk and stroll	4.35	Very much needed
I prefer a street with good scenery for walking	4.12	Much needed
I prefer a street with good surroundings possibly with a short detour	4.16	Much needed
I prefer a busy street possibly with short detour	3.85	Much needed
I prefer the shortest route when the surroundings are not pleasant	3.96	Much needed
As a whole	4.12	High

## 2.9 Comparison Between the Level of Acceptance of the Safety Rules in Crossing a Street or Intersection and the Level of Impressions of Bigueños Towards Pedestrianization

Based on Table 10, a significant difference was found between the level of acceptance of the safety rules in crossing and the level of impressions of Bigueños towards pedestrianization as justified by computed t-value of 1.89 which is higher than that of the tabular value of 1.761. This implies that there is wide gap in the acceptance and the impressions on the creation and implementation of the pedestrianization around Plaza Burgos during Saturdays, Sundays and during festivals of the heritage site.

**Table 10. Comparison Between the Level of Acceptance of the Safety Rules in Crossing a Street or Intersection and the Level of Impressions of Bigueños Towards Pedestrianization**

Variables	Mean	SD	t-value	Tabular value	Interpretation
Level of Acceptance of Safety Rules	4.24	0.06			
Level of Impressions Towards Pedestrianization	4.12	0.17	1.89	1.761	Significant

## 3.0 CONCLUSIONS AND RECOMMENDATIONS

This paper characterized the area under the pedestrianization scheme in the world heritage city of Vigan. It focuses on the interaction between the environment consisting the facilities and the trips of pedestrians relative to the activities and the movements within that environment which may be used by the local government of Vigan and planners in their decision making especially in improving the traffic management practice of the city. The perceptions of the Bigueños on the Level of acceptance of the safety rules in crossing a street or intersection in a city declared as a UNESCO world heritage site is *Very High*. On the other hand, most of the respondents have the chance to visit the central business district (CBD) around Plaza Burgos the area where pedestrianization is implemented. It was found out that tricycle is the most used type of transport mode used in reaching the facilities adjacent to or located around Plaza Burgos and in the city.. The LGU should look into the possibility of encouraging the people to use non-motorized vehicles and study the reduction of conflict among street users such as pedestrians and drivers. The city government should adopt an environmentally sustainable transport (EST) system as being promoted by the National Center for Transportation Studies, University of the Philippines, Department of Transportation and Communication (DOTC), Land Transportation Office (LTO), and United Nations Development Program (UNDP). The LGU should promote a walkable city and should identify and solve problems that are brought about by the inevitable growth of the different transport modes with the limited road space in the city of Vigan.

Other researchers should conduct a study on the effect of pedestrianization in the world heritage city of Vigan by analyzing the impact of the said pedestrian scheme practice of Bigueños on the economic aspects and the social aspects that is brought about by the scheme. Likewise, travel behavior of pedestrians should be defined and considered for further study wherein the results may be used as bases in the multi-agent model to support demands in forecasting pedestrian activities.

These findings suggest that it is worthwhile for the LGU and planners of Vigan City to consider a comprehensive study of pedestrian travel culture which is an important concept for successful development of pedestrian facilities and transport planning for the heritage city. Since Bigueños are known for their hospitable and friendly culture, this will be further enhanced if an ordinance mandating the “Give way to pedestrians” policy is enacted by the city government.

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