



Analyzing Kitchen Workspace for Food Trucks in Selected Areas of Kuala Lumpur and Selangor

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ABSTRACT

01 Kitchen Workspace

Food truck kitchen workspace is mainly created for food preparation activities, where the arrangement of kitchen equipment and vendors movement the main concern for a smooth running kitchen activities.

02 Food Truck

Food truck was initiated in America, and was rapidly expanding and adopted by other countries including countries in Asia. These food truck vendors were starting to have positive competition and mushrooming their business around Kuala Lumpur and Selangor, Malaysia as well.

03 Food Truck in Selected Areas of Kuala Lumpur and Selangor

Kuala Lumpur and Selangor area

INTRODUCTION

01 Food Truck as a New Trend in Food & Beverages (F&B) in Malaysia

In 2019, 820 food trucks operators registered under Malaysian Food Truck Association (MAFTA). . It has to been identified the first and most famous food truck i n Malaysia is named Flamming Wheels in 2003. (*N.Ghazali,N.A.A. Bakar & N.Din, 2016*)

02 Supported by Malaysian Government and Various Institutions

For example in Malaysian Budget 2018. Perbadanan Islam Johor giving grants to 1000 food trucks vendors as a starter-kit to run a business.

03 Food Truck Adopted Concept from Home Compact Kitchen

Food truck kitchen is the main workspace for food preparation, where it can takes more than 8 hours per day, depending the number of customers.

Food trends that will triumph in 2019 according to Malaysia's chefs

MARTIN TE

Fancy running a food truck business? Selangor draws up guidelines and regulations

Monday, 19 Dec 2016 06:36 AM MYT
BY YISWAREE PALANSAMY

Malaysians

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Amirudin Shari said Selangor's Smart Truck programme is still in its pilot phase but hopes all issues faced by food truck operators will be resolved by March 2017. — Picture by Yusof Mat Isa



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JUST IN POPULAR

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appointed to 2020-
Religious Committee

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Don't lose sight of

Introduction

AGENDA KEMAHAWANAN JOHOR

BANTUAN BELIA ISLAM JOHOR



Food Truck
Geran **RM 1,000** bagi
peniaga "Food Truck".

Tarikh tutup 31 Mei 2016

INTRODUCTION

01 Research Aims

To explore the various workspace of food truck kitchen focusing on those operated in Kuala Lumpur and Selangor areas.

02 Research Objectives

- i To determine existing types of food trucks in selected areas
- ii To identify the workspace of kitchen for the food trucks in selected areas

Literature Review

FOOD TRUCK AS A MOBILE KITCHEN

Food truck has become the strongest models in the F&B industry. The lifestyle of the people also changes to more fast and easy with various selection of dining menu regardless the location and even price.

Shawahid, Bakar, & Eksan, 2018

BEHAVIOR AND FOOD PREPARATION ZONING

To ensure smooth-working environment and safe circulation in the kitchen, 3 zones need to identify; preparation, washing and cooking.

In Malaysia, food truck divided based on menu serve which are cuisine, western and beverages.

Hairi, Deborah, Markwelb, 2014

WORK TRIANGLE IN A KITCHEN

One of the ergonomic workings in kitchen developed at the University Illinois in the 1940s is the kitchen 'work triangle.' This model is based on the three work center in the kitchen which are: refrigerator, sink or dishwasher, and cooker.

The idea is to put these three center to form a triangle shape steps to have most efficient distances apart to reach the best arrangement for the space available and to minimize traffic within the work space.

Baden-Powell, 2005

Literature Review

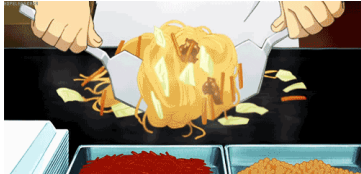
Behavior and food preparation zoning

It is important to study the activity involved to understand the pattern created in work triangle zoning.

Task / activity involved



Create Human behavior



Type of food	Menu	Activity involved
Fusion cuisine	Nasi Lemak, stir-fry noodles, local sweets, Char Kuey Teow, fried rice.	<ul style="list-style-type: none">• Boiling• Frying• Cooking• Steaming
Western Cuisine	Pasta, burger and sandwich, tacos and spaghetti.	<ul style="list-style-type: none">• Cooking• Frying• Grilling• Pan-Frying• Chopping• Mashing• Marionette

Fusion cuisine

local cuisine as part of its national multicultural identity by using the terms

Western Cuisine

Others are western food by means, European countries of France, Italy, and Spain are well known worldwide

Malaysia Government using terms

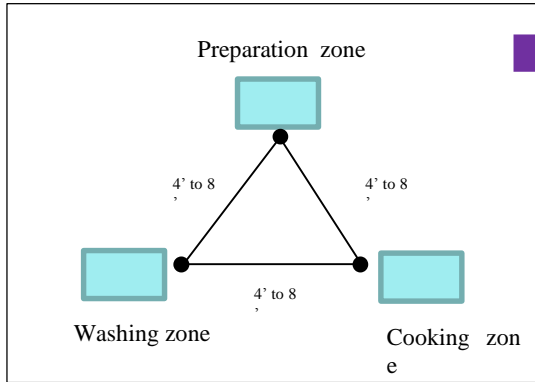
Literature Review

WORK TRIANGLE FOR FOOD TRUCK LAYOUT PLANNING

WORK TRIANGLE

The idea is to put **these three centers** to form a triangle shape steps to have most **efficient distances** apart to reach the **best arrangement** for the space available and to **minimize traffic** within the work space

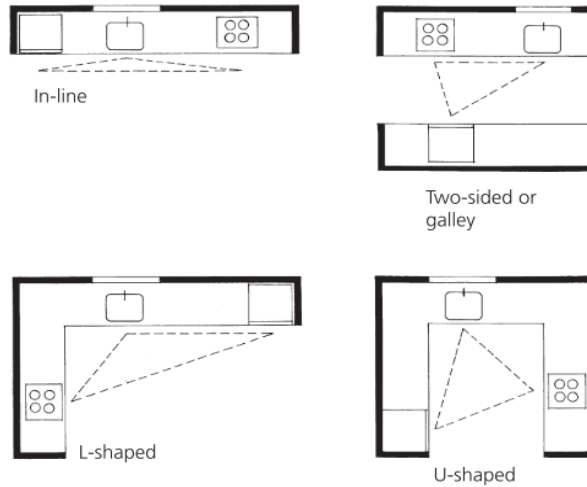
Equipment involved in these 3 zoned



Preparing diner	Cooking	Cleaning
Refrigerator	Refrigerator	Sink
Sink	Gas stove	Dining table
Countertop	Sink	Gas stove

Items include in cooking and dining process.

Work triangle in different type of kitchen



Ratio is 1:
2:2
Or 1:1:1

The range of 4 feet until 8 feet wide between 3 zoning. Since the length has its own ratio, it is easier to study the size of the kitchen.

Food truck does not have specific method to measure the space within the kitchen. Hence, work triangle is the closest and optimal method that could measure the kitchen's efficiency.

Problem Statement

MAFTA wants fixed guideline for food trucks



By **Bernama** - May 29, 2019 @ 8:34pm

RECOMMENDED

- Lack in supports by the government bodies the food truck services, make them not to have any specific regulation governing food trucks.
- Thus, the food truck vendors plan their own kitchen workspace according to their own understanding and information. Many of them created minimal working space leads to body fatigue and small accidents during preparation (Safety risk)

Problem Statement

Association wants standardised guidelines for food trucks nationwide

NATION

Thursday, 30 May 2019

2:47 AM MYT



KUALA LUMPUR (Bernama): The government must come up with a single comprehensive guideline for food truck operators to facilitate their trading activities, says Malaysian Food Truck Association (Mafta) chairman Datuk Mohamad Zaini Md T...

- Lack in supports by the government bodies the food truck services, make them not to have any specific regulation governing food trucks.
- There is no specific guideline for food truck operation especially on **SAFETY**, permit and licensing.

Research Methodology



Qualitative



OBSERVATION

- On physical elements of food trucks ; kitchen workspace, work triangle, safety



LINE UP ANALYSIS

To categorize the menu serve, location and other physical elements of food truck

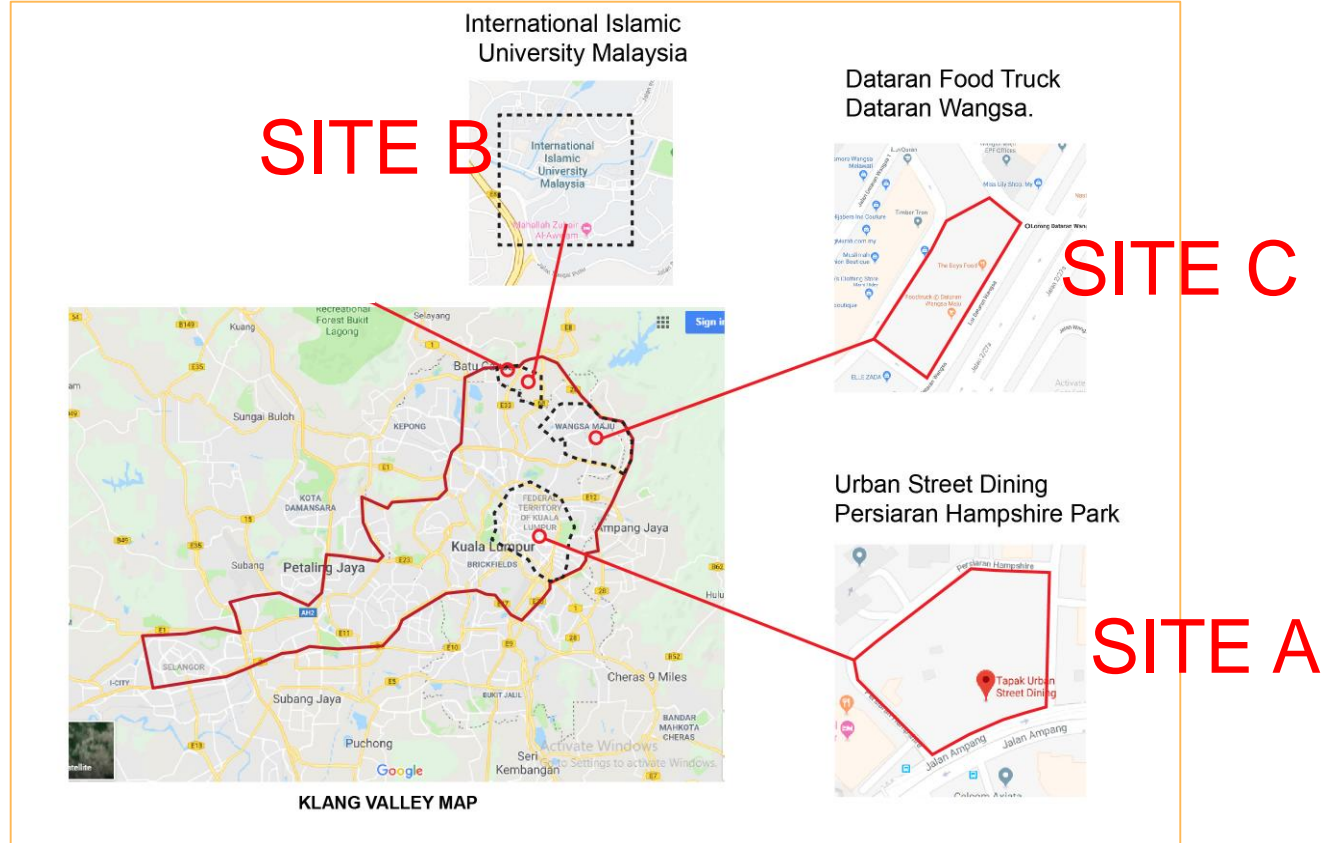


SAMPLING

- 17 food trucks in Selangor
- and Kuala Lumpur areas

Research Methodology

Location of 17 Food Trucks in KL and Selangor



Findings

Numbers of Food Trucks and Locations

A total of 17 Food Trucks in SITE A, B AND C

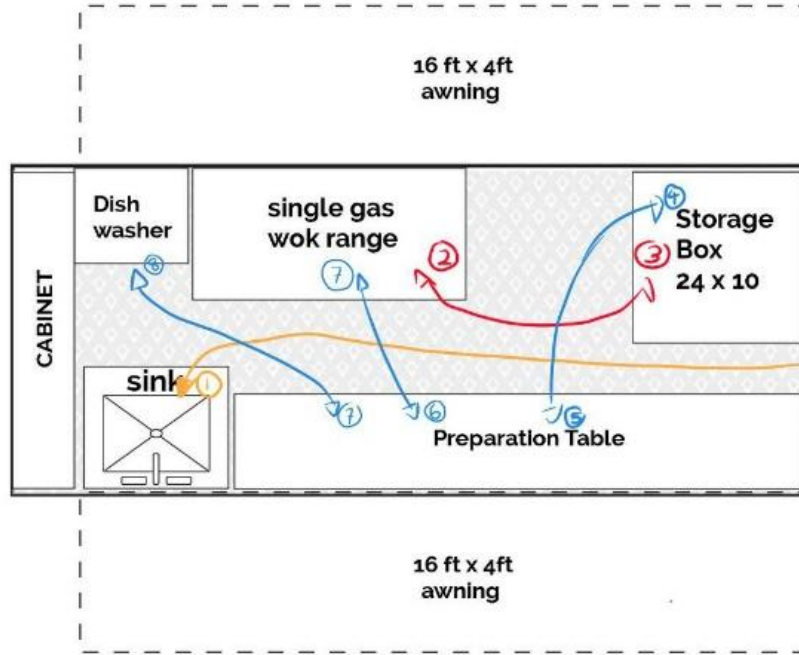
2 Kinds of Menu Serve:

Fusion Cuisine and Western Cuisine

Site	Location of the survey	Food truck	Menu	Total
A	TAPAK (KLCC, Persiaran Hampshire)	1) Mobile Chef Thai	Fusion Cuisine	6
		2) Chef Pakcik Kluang	Fusion Cuisine Western	6
		3) D'street Lorry	Cuisine Western	
		4) Danau Grill	Cuisine	
		5) Impressza Seafood Connection	Fusion Cuisine Western	
		6) Hungry Thug	Cuisine	
B	IIUM Gombak	7) Yaqin Sk Rambo	Fusion Cuisine	4
		8) Nasi Lemak Pak Teh	Fusion Cuisine	4
		9) Brader Bob	Fusion Cuisine	
		10) Sit at Zul	Fusion Cuisine	
C	TAPAK (Dataran Wangsa), Wangsa Maju	11) Penyet Street	Fusion Cuisine	7
		12) Iza Station	Fusion Cuisine	7
		13) Baboor	Western	
		14) Jejak Pelangi	Cuisine	
		15) Mantop	Fusion Cuisine	
		16) Daddy Pasta	Fusion Cuisine	
		17) Little Lily	Western Cuisine	

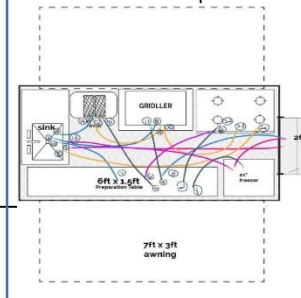
Findings

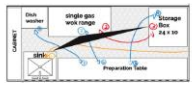
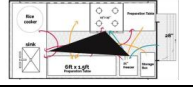
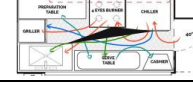
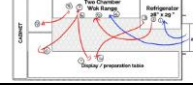
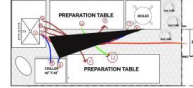



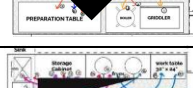
NUMBERS OF MOVEMENTS



The movements involved 3 zones; preparation, washing and cooking.

Minimum movements is 14, and maximum is 21



FT	Work triangle	Fusion Cuisine						
		Dimension (feet) / work triangle ratio	Movement	Kitchen type	Optimum workers	Discomfort	Collision	Others
A		4 x 6 1:2:3	8	Galley Kitchen	2	yes	-	No refrigerator
B		5 x 6 2:2:1	13	U-shaped Kitchen	2	yes	-	-
C		4 x 6 2:2:1	18	U-shaped kitchen	2	yes	-	Movable cabinet
D		No work triangle	11	Galley Kitchen	2	-	-	Not cooking on truck
E		6 x 7 1:3:3	12	U-shaped kitchen	2	Yes - floor	yes	-
F		No Work triangle	9	Galley Kitchen	1	yes	-	Without sink
G		No Work triangle	11	Galley kitchen	2	Yes	-	Without sink
H		8 x 6 1:1:1	1	Single wall kitchen	1	yes	-	-
I		6 x 7 1:3:3	8	Galley Kitchen	1	yes	-	-

Findings

2 kinds of food truck

With a work triangle and without work triangle.

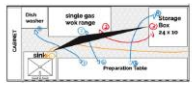
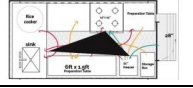
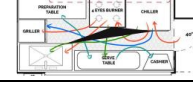
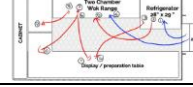
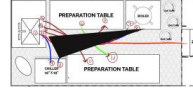



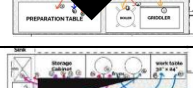
Number of movements

- Fusion cuisine; min 8, max 18
- Western cuisine; min 14, max 21

3 kinds of kitchen types

U-shaped Kitchen, Gallery Kitchen, Single Wall Kitchen

2 kinds of food truck; with work triangle and without work triangle.

FT	Work triangle	Fusion Cuisine						
		Dimension (feet) / work triangle ratio	Movement	Kitchen type	Optimum workers	Discomfort	Collision	Others
A		4 x 6 1:2:3	8	Galley Kitchen	2	yes	-	No refrigerator
B		5 x 6 2:2:1	13	U-shaped Kitchen	2	yes	-	-
C		4 x 6 2:2:1	18	U-shaped kitchen	2	yes	-	Movable cabinet
D		No work triangle	11	Galley Kitchen	2	-	-	Not cooking on truck
E		6 x 7 1:3:3	12	U-shaped kitchen	2	Yes - floor	yes	-
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G		No Work triangle	11	Galley kitchen	2	Yes	-	Without sink
H		8 x 6 1:1:1	1	Single wall kitchen	1	yes	-	-
I		6 x 7 1:3:3	8	Galley Kitchen	1	yes	-	-

Findings

Work triangles

- Most of it meet the standard requirement of work triangles (1:2:2 or 1:1:1) , which means the food truck workspace is ergonomic for the users.

Safety and Comfort

Many of food truck kitchen still having the discomfort situation although meet the work triangle standard.

Movable cabinets helps to improve the space

Many of food truck kitchen still having the discomfort situation although meet the work triangle standard.

Findings

It will contribute to the Food Trucks Business Operation Guideline under MAFTA, National Entrepreneur Institute, Kuala Lumpur City Hall (DBKL) or related municipal authorities as well as to the Food Trucks Vendors

Kitchen Workspace

The more even work triangle the more effective kitchen workspace will be Created.

Spaces that need to be improve in sizes are such as; middle area, entrance and walk path.

To create 3 zones: washing, cooking and preparation.

Kitchen Equipment

Food Truck vendors need to measure their spaces before buying and installing equipment and cabinets to ensure the good and comfortable working space.

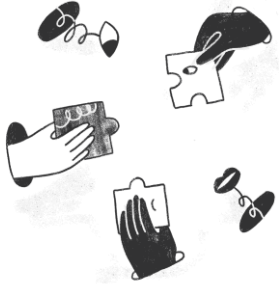
All equipment's should be placed according to the zoning.

User Behavior

The more numbers of movements during preparation, the more complicated food preparation will be. Thus, Selection of menu serves also need to consider working space provided in the food trucks.

SIGNIFICANCE OF RESEARCH

To the food truck **association**



To the food truck **vendor**



1. As a clear understanding of Food truck kitchen workspace study.
2. **Help to increase efficiency in working space and to reduce fatigue or small accident.**
3. Give a simple recommendation for kitchen arrangement.

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Thank You.

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