Syracuse University
SURFACE

Architecture Senior Theses

School of Architecture Dissertations and Theses

Fall 2018

Soft Tectonic/Adaptive Joint

Kuo Jui Lai
Syracuse University

Follow this and additional works at: https://surface.syr.edu/architecture_theses

Part of the Architecture Commons

Recommended Citation
https://surface.syr.edu/architecture_theses/430

This Thesis, Senior is brought to you for free and open access by the School of Architecture Dissertations and Theses at SURFACE. It has been accepted for inclusion in Architecture Senior Theses by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.
In Taipei, more than 70% of buildings are older than 30 years. The rate of illegal additions to existing buildings (wei ... construction can potentially lead to significant safety issues. As a response, the Taiwan government is undergoing demolitions on illegal additions throughout the city. In recent years, the number of demolished building additions has surpassed the number of that being constructed. Despite this radical effort, Taipei city is finding that illegal additions continue to be a mainstream practice.

Illegal additions and the issue of renovating old buildings highlight the vitality and dynamism of the Taipei, but also shows its risks. Illegal additions reduce the resilience of the city, as well as its ability to withstand disasters such as typhoons, earthquakes, and building hazards. While the building code requires structural reinforcement, fire escapes, and resistant materials, illegal additions will typically not comply. Instead, the intentions of the additions are focused on increasing space through use of inexpensive and temporary materials.

This thesis aims to address the role of illegal additions in order to satisfy government regulations while providing new housing and living spaces for the residents of Taipei. The thesis investigates how illegal additions can be transformed into effective and efficient spaces that provide a new identity. Specifically, it investigates how an "adaptive joint framework" can leverage current code regulations in order to provide resilient structural reinforcement and safety, as well as new spaces for the residents of Taipei. This framework will provide a new identity for the city, while also reducing the risk of natural disasters.

Illegal additions to old buildings exacerbate the public health and safety concerns. The majority of buildings in Taipei are four stories high double sided apartments, and three stories shop houses. These additions are typically tacked onto the building's facade and roof as needed. For example, a rooftop area can be turned into a garden or small farm. Window extensions can be turned into small restaurants or cafes. In this study, the thesis investigates the ethical and safety implications of illegal additions in order to provide a new identity for the city. This framework will provide a new identity for the city, while also reducing the risk of natural disasters.

Creative Cities and Design Cities: Taipei's Quest for Urban Renewal

If we look back to the feature of the old building and illegal addition together in Taipei. People are adding into the buildings later on, without a comprehensive planning or through structural and safety considerations. Illegal additions to old buildings exacerbate the public health and safety concerns. The thesis investigates how illegal additions can be transformed into effective and efficient spaces that provide a new identity for the city. This framework will provide a new identity for the city, while also reducing the risk of natural disasters. This framework will also provide a new identity for the city, while also reducing the risk of natural disasters.

Illegal additions to old buildings exacerbate the public health and safety concerns. The majority of buildings in Taipei are four stories high double sided apartments, and three stories shop houses. These additions are typically tacked onto the building's facade and roof as needed. For example, a rooftop area can be turned into a garden or small farm. Window extensions can be turned into small restaurants or cafes. In this study, the thesis investigates the ethical and safety implications of illegal additions in order to provide a new identity for the city. This framework will provide a new identity for the city, while also reducing the risk of natural disasters. This framework will also provide a new identity for the city, while also reducing the risk of natural disasters.
In recent years, the number of illegal constructions demolished for the first time is greater than the number of increases.

Illegal construction has been increasing all over Taiwan, but it can also be seen that the government has been planning to implement the demolition of illegal construction.

ILLEGAL ADDITION - Taiwan
The pace of confrontation between government and illegal construction is almost simultaneous.

Taipei city can also see that the entire illegal construction has been increasing.
PROCESS OF ILLEGAL ADDITION - 2009
DYNAMIC CITYSCAPE / RISK

OLD BUILDING + ILLEGAL ADDITION

\[ \text{OLD BUILDING} + \text{ILLEGAL ADDITION} = \text{Aftermath} \]

\[ \rightarrow \text{Aftermath} \rightarrow \text{Aftermath} \]
Urban Renewal
Promote Urbanscaping
Disaster Resistant

DESIGN
PROTOTYPE OF ILLEGAL ADDITION
PROTOTYPE OF ILLEGAL ADDITION

Illegal additions on the old building and re-framing of illegal addition's regulatory public and private status.

Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is the amount of space they had has been removed. For residents, the quality of space is not an immediate benefit which they can imagine, but the "benefit" brought by space reuse is.

Illegal Addition
Housing Prototype
Tectonic

Adaptive Joints investigates a flexible enclosure consisting of a series of structural supplementary. The structure supplementary provides the foundation to construct the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation. The structural supplementary allows people to stop or pass through. The scaffold like structure of the Adaptive Joint open up the fire lane to connect to the arcade, which also provides space to public use to deal with illegal additions and old buildings issues.

Overlap mapping of overall urban renewal sites, vacancy buildings, soil liquefaction and old buildings could get a solid choice of the site to experiment the Adaptive Joint. The mapping will reveal where the fire lane is located and how it can be activated. The adaptive joints will be used to support the illegal addition on the back side of the facade. The steel c-channels provides the track for the flexible enclosure to move. The adaptive joints will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure of the Adaptive Joint plays the role to support the illegal addition on the back side of the facade. The steel c-channels provides the track for the flexible enclosure to move. The new structure will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure of the Adaptive Joint will provide the foundation to construct the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation.

Illegal additions on the old building and re-framing of illegal addition's regulatory public and private status.

Adaptive Joints plays a critical role in opening up the private space to the public use and contributing the benefit brought by space reuse. Adaptive Joints tend to be created the space to adapt in fire lanes to provide following opportunities.

1. First, "joints" will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will support the main structure of the old building through the connection of the other old buildings in the same block.

2. Second, "joints" will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will support the main structure of the old building through the connection of the other old buildings in the same block.

3. Third, "joints" will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will support the main structure of the old building through the connection of the other old buildings in the same block.

4. Fourth, "joints" will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will support the main structure of the old building through the connection of the other old buildings in the same block.

How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous space for the city. Adaptive Joint trying to accommodate the various individual needs, rather than trying to modify the chaotic structure. Adaptive Joints plays a critical role in opening up the private space to the public use and contributing the benefit brought by space reuse.
Illegal additions on the old building and re-framing of illegal addition's regulatory public and private status. Such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adapt joints may help achieve the goal of disaster resilience by tie existing.

Currently, adaptations are allowed for some illegally built structures to remain and find a path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, adaptive joints have disappeared obviously. However, we still have to deal with the regulation issue and disasters issue on old buildings and illegal additions. Ultimately, the goal of this project is to provide a way to adapt the space in fire lanes to the social and commercial needs.

Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove space that they have been in use for a long time. For residents, the quality of space is not an immediate benefit which they can imagine, but the "benefit" brought by space over time should be considered.

The application of Adaptive Joints in fire lanes could provide a new "Joint" to adapt to fire lane space in Taipei, which will become the key to start this design proposal. The concept of Adaptive Joints is about creating space to adapt in fire lanes to provide opportunities for residents.

Adaptive Joints also play a critical role in opening up the private space to the public use and contributing the public domain. Fourth, introduce the commercial in the smaller scale street that already happen in Taipei's new developed area (East Taipei), which is a soft boundary for the city. Adaptive Joint trying to accommodate the various individual needs, rather than trying to modify the chaotic structure.

How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous boundary between two buildings and it is also an ambiguous space for the city. Adaptive Joint trying to accommodate the various individual needs, rather than trying to modify the chaotic structure.

Adaptive Joints are easy to assemble and disassemble. Moreover, Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to apply new materials and mechanisms to design new "Joint" to adapt to fire lane space in Taipei will become the key to start this design proposal.
illegal additions on the old building and re-framing of illegal addition's regulatory public and private status. Such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adaptive joints may help achieve the goal of disaster resilience by tying existing structures together. However, we still have to deal with the regulation issue and disasters issue on old buildings and illegal additions. Ultimately, the goal of this project is to adapt joints as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove illegal additions. What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed by Mosso and Castagno at 50', the high-density residential mixed planning and illegal additions of Asian cities more clearly reflect their idea of a dynamic world. Architecture should not be static, the key of Mosso's and Castagno's dynamic model is "joints." Just as illegal additions are built on the joints that bring the people up and down to pass by the different unit of illegal additions. The illegal addition might transfer to the small vendor as the main street to run the business when the foot traffic increases. Adaptive Joint open up the fire lane to connect to the arcade, which also provides space allows people to stop or pass through. The scaffold-like structure becomes a good way to activate the dead space in the old area through the same tactic in this context (west Taipei).

PROTOTYPE OF ILLEGAL ADDITION

Illegal Addition

Housing Prototype: Window Extensions

Tectonic

Illegal Addition: Penhouse Additions

Arcade Occupancy

Figure captions:
1. Illegal Addition Housing Prototype
2. Tectonic
3. Window Extensions
4. Penhouse Additions
5. Arcade Occupancy

This discourse leads this project to trace back to the old building code regulations No.110-1, if the fire lane smaller than three meters, the wall and opening should make fireproof limitation over one hour. If the fire lane bigger than three meters but smaller than six meters, the wall and opening should make fireproof limitation over half hour. However, new fire regulations canceled fire lane code and replaced by purely fireproof limitation time because the opening should make fireproof limitation over one hour. If the fire lane bigger than three meters but smaller than six meters, the wall and opening should make fireproof limitation over one hour.
This discourse leads this project to trace back to the old building code regulations No.110-1, if the fire lane smaller than three meters, the wall and opening should make fireproof limitation over one hour. If the fire lane bigger than three meters but smaller than six meters, the wall and opening should make fireproof limitation over half hour. However, new fire regulations canceled fire lane code and replaced by purely fireproof limitation time because the technology of fireproof material. That means if we reveal the exist fire lane to be the public use as a pedestrian will turn to the building code to Road Traffic Management Regulations No.3 which like continuous arcade as a part of the pedestrian. That makes owner only be required to keep the fire lane (pedestrian) not be blocked and extend the fire protection time through the material. The illegal addition will become easier to be remained, if the illegal addition not blocks the passage on the path. As a reference of open up fire lane, the most common scenario in continuous arcade is that the space of arcade sometime is a public motorbike parking space, sometime is a owner’s retail space.
What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed by Mosso and Castagno at 50', the high-density residential mixed planning and illegal additions of Asian cities more clearly reflect their idea of a dynamic world. Architecture should not be static, the key of Mosso’s and Castagno’s dynamic model is ‘Joints.’ Just as illegal additions are built on the joints that are easy to assemble and disassemble. Moreover, Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to apply new materials and mechanisms to design new ‘Joint’ to adapt to fire lane space in Taipei will become the key to start this design proposal.
How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous boundary between two buildings and it is also an ambiguous space for the city. Adaptive Joint trying to accommodate the various individual needs, rather than trying to modify the chaotic structure. Adaptive Joints plays a critical role in opening up the private space to the public use and contributing the health, safety and beauty of existing buildings. It is another layer of the system that reinforces the structure of old buildings, wraps around the illegal additions and provide structural aesthetical. Adaptive Joints tend to be created the space to adapt in fire lanes to provide following opportunities. First, provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds the new fire code through the material. Third, provide new public space in the city which responds the Road Traffic Management Regulations through that turning the private entitles to the public domain. Fourth, introduce the commercial in the smaller scale street that already happen in Taipei’s new developed area (East Taipei), which is a good way to activate the dead space in the old area through the same tactical in this context (west Taipei).
Adaptive Joints investigates a flexible enclosure consisting of a series of structural supplementary. The structure supplementary provides the foundation to construct the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation. The structural supplementary will be constructed by vernacular tectonic which is the same as an illegal addition. Steel C-Channels will form the structural grid to fill in the fire lane. That will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure also plays the role to support the illegal addition on the back side of the facade. The steel C-channels provides the track for the flexible enclosure to move and adapt the shape of the facade of old buildings and illegal additions. That reveals the space of the fire lane for the public use. It is a soft boundary for private and public and could be adjusted and adapted for both side's use through the channel. The flexible enclosure also provides the fire protection through the material. On the other hand, the flexible fabric plays the critical role when illegal addition be demolished (if that still against the Road Traffic Management Regulations), which still can maintain the space for resident use.
Overlap mapping of overall urban renewal sites, vacancy buildings, soil liquefaction and old buildings could get a solid choice of the site to experiment the Adaptive Joint. The site is located on Monga, west Taipei, which is the oldest area of the city. The site is one of urban renewal spot plan by the city government which with chaotic urban condition but full of different level activities and issues such as market, residential, homeless concentration, religious ceremony... etc. This site could be perfectly revealed by the fire lane to public use to deal with illegal additions and old buildings issues. Looking into the overall site will find there is a small area with more chaotic condition compares with the surrounding area which left more space for fire lane because of fragmentation of properties. Choose a small block right next to the temporary market on the main street to bring the public pass through the fire lane to the other main street become the main focus to activate this project. All venders occupied the main street and part of the arcade for their small business. Adaptive Joint open up the fire lane to connect to the arcade, which also provides space allows people to step or pass through. The scaffold-like structure brings the people up and down to pass by the different unit of illegal additions. The illegal addition might transfer to the small vender as the main street to run the business when people pass through the fire lane. The scaffold-like structure might divide the fire lane at three parts vertically. The rooftop could provide the space to deal with the lower income residential issue in this site through the new egress system which integrates with vacancy building. The middle level space could provide the vertical space for the public or private, which depends on the soft boundary’s position, when people be bringing into the fire lane. The pedestrian level will connect to the continuous arcade on the main street side. The inner pedestrian could open up the façade in to the building.
Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is that the amount of space they had has been removed. For residents, the quality of space is not an immediate benefit which they can imagine, but the "benefit" brought by space has disappeared obviously. However, we still have to deal with the regulation issue and disasters issue on old buildings and illegal additions. Ultimately, the goal of this project is allowing some illegally built structures to remain and find path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adaptive Joints may help achieve the goal of disaster resilience by tie existing illegal additions on the old building and re-framing of illegal addition's regulatory public and private status.
illegal additions on the old building and re-framing of illegal addition's regulatory public and private status. is allowing some illegally built structures to remain and find path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, that the amount of space they had has been removed. For residents, the quality of space is not an immediate benefit which they can imagine, but the "benefit" brought by space the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove are easy to assemble and disassemble. Moreover, Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to world. Architecture should not be static, the key of Mosso's and Castagno's dynamic model is "joints." Just as illegal additions are built on the joints that What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed a good way to activate the dead space in the old area through the same tactical in this context (west Taipei). provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds the new fire code through the material. Third, provide new public space in the city which responds the Road Traffic Management Regulations through that turning the private entities to public domain. Fourth, introduce the commercial in the smaller scale street that already happen in Taipei's new developed area (East Taipei), which is also plays the role to support the illegal addition on the back side of the facade. The steel c-channels provides the track for the flexible enclosure to move the fire lane. That will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure also plays the role to support the illegal addition on the back side of the facade. The scaffold-like structure might divide the fire lane at three parts vertically. The rooftop could provide the space to deal with the lower income surrounding area which left more space for fire lane because of fragmentation of properties. Choose a small block right next to the temporary market on the main street to bring to public use to deal with illegal additions and old buildings issues. Looking into the overall site will find there is a small area with more chaotic condition compares with the site is located on Monga, west Taipei, which is the oldest area of the city. The site is one of urban renewal spot plan by the city government which with chaotic urban condition Overlap mapping of overall urban renewal sites, vacancy buildings, soil liquefaction and old buildings could get a solid choice of the site to experiment the Adaptive Joint. The arcade sometime is a public motorbike parking space, sometime is a owner's retail space. (pedestrian) not be blocked and extend the fire protection time through the material. The illegal addition will become easier to be remained, if the illegal technology of fireproof material. That means if we reveal the exist fire lane to be the public use as a pedestrian will turn to the building code to Road Traffic Management Regulations No.3 which like continuous arcade as a part of the pedestrian. That makes owner only be required to keep the fire lane opening should make fireproof limitation over one hour. If the fire lane bigger than three meters but smaller than six meters, the wall and opening should This discourse leads this project to trace back to the old building code regulations No.110-1, if the fire lane smaller than three meters, the wall and
Illegal additions on the old building and re-framing of illegal addition’s regulatory public and private status.

Such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adaptive Joints may help achieve the goal of disaster resilience by tying existing buildings together.

Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is the loss of space they had.

What we can apply in the fire lane to activate the fire lane? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed by Mosso and Castagno could be a good way to activate the dead space in the old area through the same tactical in this context (west Taipei).

How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous boundary between two buildings and it is also an ambiguous private, which depends on the soft boundary's position, when people be bringing into the fire lane. The pedestrian level will connect to the continuous arcade on the main street.

Fourth, introduce the commercial in the smaller scale street that already happen in Taipei's new developed area (East Taipei), which is a public domain. Third, provide new public space in the city through the Road Traffic Management Regulations, which still can maintain the space for resident use.

Supplementary will be constructed by vernacular tectonic which is the same as an illegal addition. Steel C-Channels will form the structural grid to fill in the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation. The structural technology of fireproof material. That means if we reveal the exist fire lane to be the public use as a pedestrian will turn to the building code to Road Traffic Management Regulations No.3 which like continuous arcade as a part of the pedestrian. That makes owner only be required to keep the fire lane opening should make fireproof limitation over one hour. If the fire lane bigger than three meters but smaller than six meters, the wall and opening should.

This discourse leads this project to trace back to the old building code regulations No.110-1, if the fire lane smaller than three meters, the wall and.
illegal additions on the old building and re-framing of illegal addition's regulatory public and private status.

is allowing some illegally built structures to remain and find path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove

apply new materials and mechanisms to design new "Joint" to adapt to fire lane space in Taipei will become the key to start this design proposal.

are easy to assemble and disassemble. Moreover, Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to

world. Architecture should not be static, the key of Mosso's and Castagno's dynamic model is "joints." Just as illegal additions are built on the joints that

by Mosso and Castagno at 50', the high-density residential mixed planning and illegal additions of Asian cities more clearly reflect their idea of a dynamic

What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed

a good way to activate the dead space in the old area through the same tactical in this context (west Taipei).

the public domain. Fourth, introduce the commercial in the smaller scale street that already happen in Taipei's new developed area (East Taipei), which is

provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds the new fire code through the

health, safety and beauty of existing buildings. It is another layer of the system that reinforces the structure of old buildings, wraps around the illegal

than trying to modify the chaotic structure. Adaptive Joints plays a critical role in opening up the private space to the public use and contributing the

supplementary will be constructed by vernacular tectonic which is the same as an illegal addition. Steel C-Channels will form the structural grid to fill in

to construct the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation. The structural

Adaptive Joints investigates a flexible enclosure consisting of a series of structural supplementary. The structure supplementary provides the foundation
Dynamic modification of a structure with a virtual joint. Courtesy Leonardo Mosso and Laura Castagno.

Adaptive Joints are allowing some illegally built structures to remain and find a path toward legalization by adjusting the behaviors of the residents nowadays. However, we still have to deal with the regulation issue and disasters issue on old buildings and illegal additions. Ultimately, the goal of this project is to integrate Adaptive Joints into the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is the rigid and inflexible nature of the current model of urban renewal. Adaptive Joints could be used as a new solution by people to adapt to the changing needs of the residents.

The application of Adaptive Joints in Taipei, Taiwan, will become the key to start this design proposal. Architecture should not be static; the key of Mosso and Castagno's dynamic model is the use of joints. Just as illegal additions are built on the joints that hold the structure together, Adaptive Joints can be used to adapt to the dynamic needs of the residents. High-density residential mixed planning and illegal additions in Asian cities reflect the idea of a dynamic and adaptive urban environment.

What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed by Adaptive Joints can be applied to provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds to the new fire code through the use of new materials and mechanisms. Third, provide new public space in the city which responds to the Road Traffic Management Regulations through the use of Adaptive Joints. The flexible enclosure plays the critical role when illegal addition be demolished (if that still against the Road Traffic Management Regulations), which still can maintain the space for resident use.

The flexible enclosure provides the fire protection and support for the illegal addition on the back side of the facade. The steel C-Channels provide the track for the flexible enclosure to move in the fire lane. That will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure that will be constructed by vernacular tectonic which is the same as an illegal addition. Steel C-Channels will form the structural grid to fill in the fire lane. That will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will also provide the foundation for the adaptive joints.

In Taipei city, the inner pedestrian could open up the façade into the building. The pedestrian level will connect to the continuous arcade on the main street, providing a space for the public to pass through the fire lane. The scaffold-like structure might divide the fire lane into three parts vertically. The rooftop could provide the space to deal with the lower income level. The illegal addition might transfer to the small vendor as the main street to run the business when the public pass through the fire lane to the other main street become the main focus to activate this project. All vendors occupied the main street and part of the arcade for their business.

Looking into the overall site will find there is a small area with more chaotic condition compared with the surrounding area which left more space for fire lane because of fragmentation of properties. Choose a small block right next to the temporary market on the main street to bring Adaptive Joints into public use to deal with illegal additions and old buildings issues. Looking into the overall site will find there is a small area with more chaotic condition compared with the surrounding area which left more space for fire lane because of fragmentation of properties. Choose a small block right next to the temporary market on the main street to bring Adaptive Joints into public use to deal with illegal additions and old buildings issues.
How to apply new materials and mechanisms to design new "Joint"?

"The joint is not a necessary evil. Accordingly, it does not need to be concealed with seal strips and so on, like an object of shame. It stands out as a formative element, which has evolved with progress in technology. As the surface texture is smoothed out, the rhythm of light and shade, structure, planes and volumes is taken up in the play of incorporeal lines, the joints, on opaque, luminous or moving surfaces. These joints not only indicate zones of contact but scrupulously define any object they enclose. They not only reflect processes of aesthetic importance but represent the results of technical functions and are to be understood as such. Their place is determined by materials and methods, structural principles, standards and modular order. In certain circumstances they conceal systems of connections and the principle of the structure. In the perfect relationship of object, function and separation the joint communicates a new visual attitude."

- Konrad Wachsmann
illegal additions on the old building and re-framing of illegal addition's regulatory public and private status. such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adapt joints may help achieve the goal of disaster resilience by tie existing is allowing some illegally built structures to remain and find path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, the illegal additions, which will greatly reduce the creativity and dynamism of the city. At the stage of the urban renewal proposal, the most unacceptable thing for residents is Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove apply new materials and mechanisms to design new "Joint" to adapt to fire lane space in Taipei will become the key to start this design proposal.

are easy to assemble and disassemble. Moreover, Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to

world. Architecture should not be static, the key of Mosso’s and Castagno’s dynamic model is "joints." Just as illegal additions are built on the joints that

by Mosso and Castagno at 50’, the high-density residential mixed planning and illegal additions of Asian cities more clearly reflect their idea of a dynamic

What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed

a good way to activate the dead space in the old area through the same tactical in this context (west Taipei).

Fourth, introduce the commercial in the smaller scale street that already happen in Taipei’s new developed area (East Taipei), which is

material. Third, provide new public space in the city which responds the Road Traffic Management Regulations through that turning the private entities to

provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds the new fire code through the

additions and provide structural aesthetical. Adaptive Joints tend to be created the space to adapt in fire lanes to provide following opportunities. First,

than trying to modify the chaotic structure. Adaptive Joints plays a critical role in opening up the private space to the public use and contributing the

How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous

ADAPT JOINT & SPACES NEEDED

Typhoon proofing / Living space / Water proofing

Extra room

Planting Space / Clotheshorse

Retail space / Parking / Playground

ADAPTIVE JOINT

ILLEGAL ADDITION
illegal additions on the old building and re-framing of illegal addition's regulatory public and private status. Such as adding more fire protection materials, strong structures or beautiful additions to the facade. Adaptive joints may help achieve the goal of disaster resilience by tying existing is allowing some illegally built structures to remain and find a path toward legalization by Adaptive Joints. Instead of simply copying the behaviors of the residents nowadays, has disappeared obviously. However, we still have to deal with the regulation issue and disaster issue on old buildings and illegal additions. Ultimately, the goal of this project is to apply new materials and mechanisms to design new “Joint” to adapt to fire lane space in Taipei. It will become the key to start this design proposal. What we can apply in the fire lane to activate the fire lane tactical? Based on the scenario of illegal additions in Taipei city, the dynamic model proposed by Mosso and Castagno at 50', the high-density residential mixed planning and illegal additions of Asian cities more clearly reflect their idea of a dynamic world. Architecture should not be static, the key of Mosso’s and Castagno’s dynamic model is “joints.” Just as illegal additions are built on the joints that Wachsmann also pointed out that Joint is the intersection of technology and aesthetics, so how to also plays the role to support the illegal addition on the back side of the facade. The steel c-channels provide the track for the flexible enclosure to move to construct the new path to connect the continuous arcade in pedestrian level and allow people pass the fire lane at different elevation. The structural supplementary will be constructed by vernacular tectonic which is the same as an illegal addition. Steel C-Channels will form the structural grid to fill in the fire lane. That will support the main structure of the old building through the connection of the other old buildings in the same block. The new structure will provide new structural system to stabilize the old building. Second, increase the standard of fire protection which responds the new fire code through the material. On the other hand, the flexible fabric plays the critical role when illegal addition be demolished (if that still against the Road Traffic Management Regulations), which still can maintain the space for resident use. How Adaptive Joint adapts in a fire lane? Illegal addition is so dynamic to occupy the space for a long term. The space of fire lane become an ambiguous boundary between two buildings and it is also an ambiguous space for the city. Adaptive Joint trying to accommodate the various individual needs, rather than full of different level activities and issues such as market, residential, homeless concentration, religious ceremony… etc. This site could be perfectly revealed by the fire lane when the site is located on Monga, west Taipei, which is the oldest area of the city. The site is one of urban renewal spot plan by the city government which with chaotic urban condition. Overlap mapping of overall urban renewal sites, vacancy buildings, soil liquefaction and old buildings could get a solid choice of the site to experiment the Adaptive Joint. The overlapped area of the red line, purple line and yellow line still has an ambiguous area. The left part is good space for fire lane, which left more space for fire lane because of fragmentation of properties. Choose a small block right next to the temporary market on the main street to bring people to the fire lane. Adaptive Joint could be implemented in the fire lane such as flexible enclosure, urban acupuncture, structure supplementary + fire proof area. At the stage of urban renewal proposal, the most unacceptable thing for residents is the illegal additions, which will greatly reduce the creativity and dynamism of the city. Adaptive Joints could be used as a new solution by people needed. The current model of urban renewal has failed because it is not feasible to go against residents and remove the illegal additions on the old building and re-framing of illegal addition's regulatory public and private status.
ADAPTIVE JOINT

Flexible Enclosure
Opening
Structure Supplementary
Channel
Fire Lane
Connection
ADAPTIVE JOINT
SITE ANALYSIS - Earthquake / Old Building / Illegal Addition / Soil liquefaction / Typhoon
CITATION:


