



Nara Style and Wisdom Machiya

Machiya is a residential style with full of ideas for many people to live in a limited urban site. In Nara-machi, rational and sophisticated Nara Machiya has been formed and passed down to the generations, throughout the long history.

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Elements of Nara Machiya

1

Site planning

The buildings are placed to make the most effective use of the long and narrow site, and to keep the good living environment. There are common features to Nara Machiya used for various industries, such as commerce, handcraft and accommodation since early modern times.

Omoya (Main house)

Stands facing the front street in maximum width. Openings are designed to face the street as well as courtyard.

P2 ● ● 2

Detached room

Stands in the back of the main building, over the courtyard.

Kura (Storehouse)

Always made of thick earthen wall in Nara Machiya.

Depth

About 60 meters at the deepest site.

Backyard

Some are used as vegetable garden.

Courtyard

Function as lighting & ventilation path, and being elaborated in a design together with drawing room, or *Oku-no-ma*.

P4 ● ● 3

Corridor

Connects Main House and Detached room along Courtyard. Bathroom and toilets are located.

Bathroom has been installed in ordinary houses only after the Showa era.

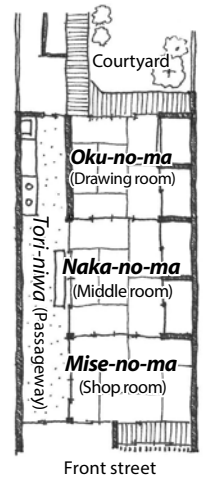
2

Omoya (Main House)

Careful layout of rooms enables to have necessary living spaces, even though its site is limited.

1 Basic room layout of Omoya

Three or four rooms align in one row, along the passageway. Site with larger width has two rows, but rarely three. In case of three rooms in one row, they are called, in order from the front, *Mise-no-ma* (Shop-room), *Naka-no-ma* (Middle room), and *Oku-no-ma* (Drawing room).



2 Different types of Omoya

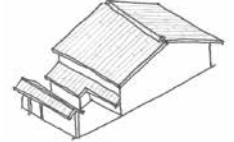
Many *Omoyas* in Nara Machiya are facing the front streets directly as drawn in the left page, but there are different types of them as below.

Front wall style



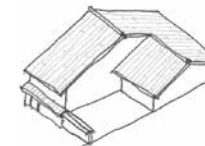
Build a short wall along the street.

Front garden style



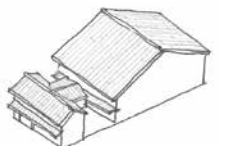
Build a short wall and front garden along the street.

Dropped roof style



Omoya with two row rooms have one of the roof dropped above, the farther row from the passageway.

Shopfront style



Basically, Shopfront building is built between the street and Main house, but found various arrangements with or without connections.

Ceiling design

The second floor structure is exposed in Middle room and Shop room, but ceilings in Drawing room often covers it. Also raises the second floor level to have enough ceiling height.

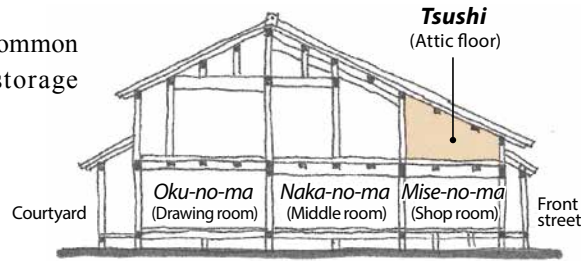


Note: Planning varies, according to the plotting.

3 *Tsushi* (Attic floor)

The second floor with low ceiling, common in Nara-machi, mostly used as storage space.

Ceiling in Shop room would be lower to have enough height in attic floor.



4 *Tori-niwa* (Passageway)

A space with earthen floor that connects the front street and backyard in Main house. Common to traditional townhouses to have this space used for outdoor work as well.

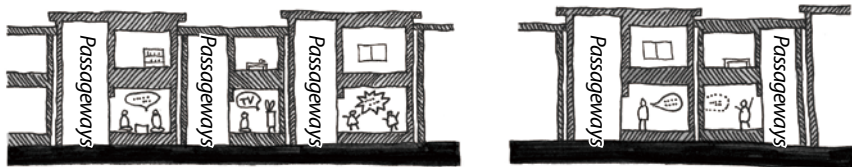
Multi functions

- Entrance
- Kitchen with fire stoves
- Approach for gardens (carry-in tools)

The space was divided by closets or furniture for different uses.

Layout of Passageways

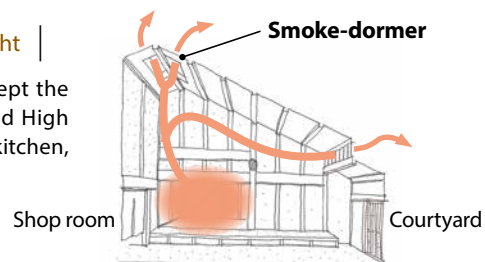
- Placed on the same sides in adjacent houses to prevent noise transmission; east side in north-to-south long site, and the south side in east-to-west long site.



No noise transmission occurs when rooms are sandwiched by Passageway.

Double height, Smoke-dormer & High side light

Passageway is double height up to the attic, except the area right next to Shop room. Smoke-dormer and High side light are designed for smoke exhaust in the kitchen, and for ventilation throughout the building.

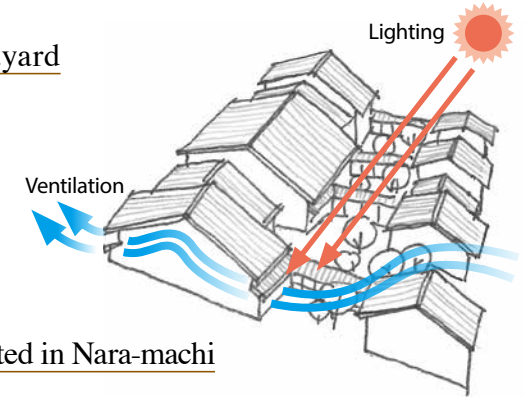


3 Courtyard

- Courtyard is very important for the lighting & ventilation. This space has been cultivated by the lifestyle and culture of people in the neighborhood, and become the courtyard in Nara-machi with distinctive taste.

1 Layout and function of courtyard

Every Nara Machiya places courtyard on the same depth from the street to assure the lighting and ventilation path for the inner part of the site.



2 The charm of courtyard cultivated in Nara-machi

Soseki (Foundation stone)

Stones taken after foundation from temple or shrine, have used as gardening stones in courtyards. Those are the reminiscent of the history of Nara-machi which has been developed from the precincts or estates of the Kofukuji Temple and Gangoji Temple.

Cha-no-yu (Tea ceremony)

Tea ceremony was popular among townspeople throughout early-modern times in Nara which is associated with Murata Juko*, a tea master in the middle Muromachi period. The influences are seen in the design of stepping-stones and the Sukiya style corridor.

* He is said to be the founder of Wabi-cha.

Toro (Stone lantern)

It was popular for the wealthy family to place a big lantern in their gardens like in temple and shrine after late early-modern to modern times.

Well

After acquiring the next doors for land expansion, the needless well would be kept as an ornament for the garden without being demolished. It is a reminiscent of the changing of site plotting in Nara-machi.



VOICE

Courtyard is a key for the better way of living — the voices of the people living in Nara Machiya

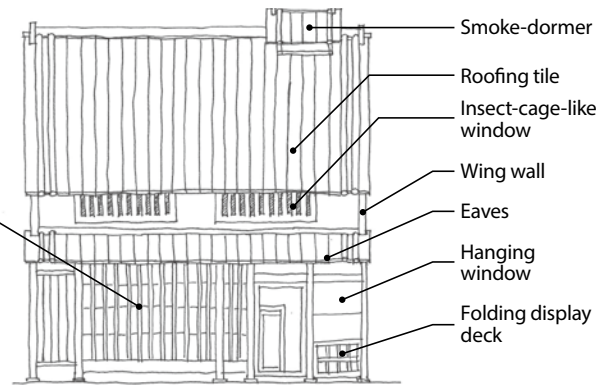
We don't open the windows facing the street so much, because we don't want to be disturbed by the people and cars. Instead, we open up the windows to the courtyard widely without worrying other people's eyes, and enjoy the quiet atmosphere feeling the change of seasons.

Although surrounded by the walls, there is a wind flow, and it's also warmer in winter. In case of reconstruction, courtyard is to be demolished and replaced by front garden, but it is important to keep courtyard considering a better way of living.

2 Façade



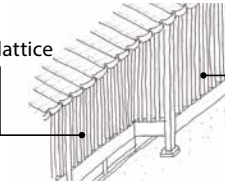

1 Lattice

Lattice is the heart of façade design in Nara Machiya. It works well for security. Hard to be seen from outside, although looking out is clear. Keeps the privacy, but gives lighting, winds and sounds inside the house.






1 Grouping of lattice

Lattice design are grouped into two types : flush lattice and bay lattice. And each type is sub-grouped into fixed lattice or framed lattice. The difference is whether it is embedded in or framed on the base.

Flush lattice	Bay lattice	Fixed lattice	Framed lattice
Built flush into the wall, between the columns.	Sticks out from the wall surface, built like bay-window style.		
		Vertical bars are embedded in the beams or girders, not removable.	Bars are within a frame to be removable. Newer design than fixed lattice.

2 Lattice in Nara Machiya

There are various designs of lattice in Nara Machiya.

Basic designs		
Thick lattice	Thin lattice	Parent-child lattice
		
Rectangular timbers joined with rails. Showing the occupation of the owner of the house, they are called "liquor store lattice" or "rice store lattice".	Thin rectangular bars, made possible by the development of tools. "thread store lattice" or "retired store lattice"	Two different bars. The wide & long ones are the parents and the thin & short ones are the children.

Special design to Nara-machi and neighbors

Timber Lattice



Logs, half-split logs or processed logs with skin are used for the bars, embedded in the base. From the name of the neighborhood, it's called Horen lattice or Nara lattice. Some are without base.

VOICE

Lattice design matters! —Voices of people living in Nara Machiya

When we visit other traditional regions, what we feel first is the different atmosphere of lattice. Lattice is an important element to give the impression of town. Therefore, when you build new lattice in Nara-machi, we'll be happy if you follow the style & design of Nara Machiya.

2

Roof and eaves

The horizontal lines emphasized by the deep eaves parallel to the road overlap with each other, create continuity of townscape and unification in Nara-machi. Eaves are necessary to live comfortably, protecting the house from wind and rain.

1 Forms of roof

Main house of Nara Machiya always has its entrance on the eaves' side. Most of them are gabled roof with square tiles, and the pitch is 4.5 to 5 *sun* (a *sun* = 3.03 cm) in 1 *shaku* (a *shaku* = 30.3 cm). Between the adjacent houses, the higher one extends the roof to the other to cover the gap, and avoids the rain.



2 Design of roofing tiles

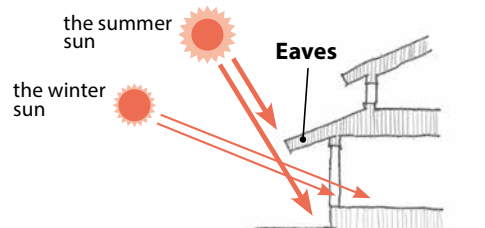
On the both edges of gabled roof, there are two rows of rounded tiles put on square-tile roofing, for wind breaking. Some Machiya have one more row in the center. Many characteristic designs of antefix has appeared with the times.



3 Deep eaves

Many Nara Machiya have bay-lattice, which leads to have canti-girder to hang over them. Deep eaves have become the characteristics of Nara Machiya as a consequence. Roof boards on rafters is the standard way, but only laying thick roof board style is also common.

Deep eaves can keep the good interior condition controlling the sun light depending on the seasons, and avoid the rain from hitting on the walls which make the house last long.



4 Fixtures under eaves

Fence with carved-wood bars, *komayose*, and pointed stones embedded in the ground below bay-lattice, *shika-yoke* or protection from deer, are fixed in order to protect houses from people and animals.

Battari-shogi, is a folding-display-deck that built together with *shitomi-do*, or hanging-window. Unfold when it's necessary for displaying products, used as a bench, too.



Carved-wood fence



Deer protection



Folding display deck

3 *Mushiko-mado* (Insect-cage-like window)

A ventilation & lighting window on the façade or rear wall on the *tsushi*, or attic floor. Painted with plaster and various designs.



4 *Sode-udatsu* (Wing wall)

Partition hanging out on the sides of the second floor with plaster finish. Some are decorated with patterns. Originally functioned for fire protection, but it came to be considered as decoration.



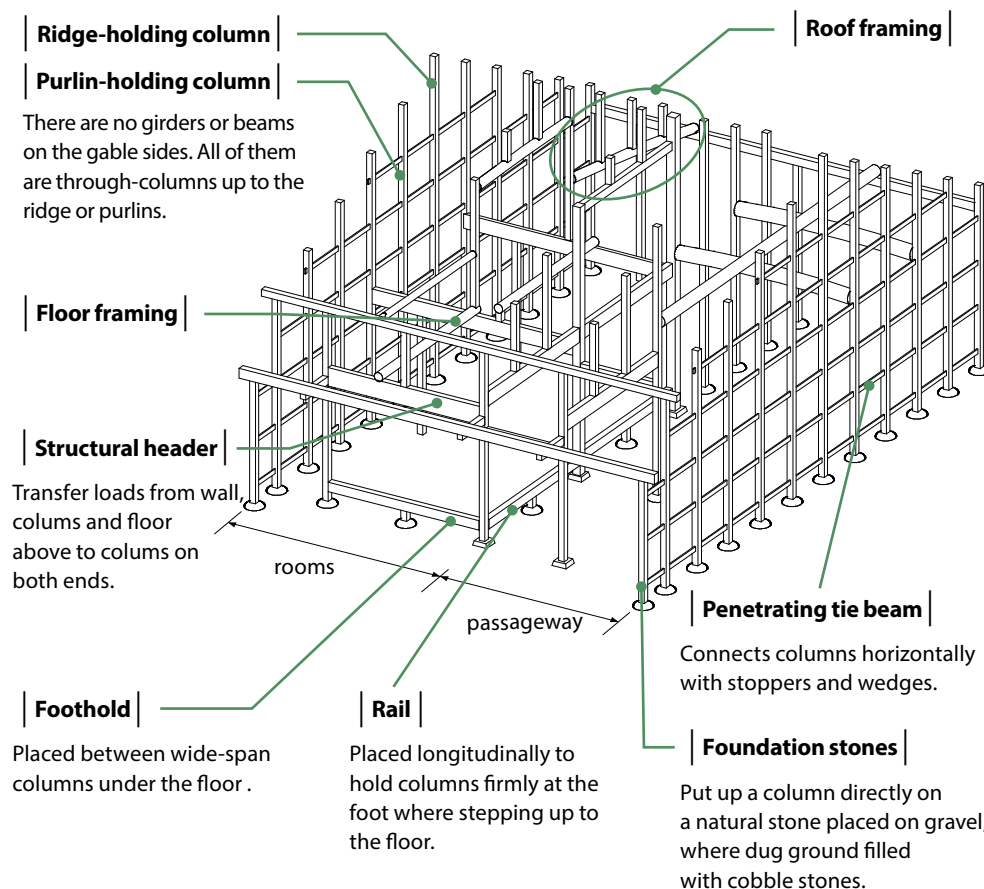
Construction Method

1

Framework by traditional method

It is a wooden frame structure making the most of the property of wood. Columns sit on foundation stones, and joints are fixed with stoppers or wedges. The method in which each member is connected without metal fixture, is the way to release an external force caused by earthquake or wind, through bending or sink deformation of the members.

The picture below is a framework of Nara Machiya, three and a half *ken* (1 *ken* = 1.8 meters) in width by five *ken* in depth.



© There is no thick column such as *daikoku-bashira*, or a principal post in the center of Nara Machiya, which normally placed in traditional Japanese house.

2

Tsugite & Shikuchi - carpentry works (Lengthening joints & Mortise and Tenon joints)

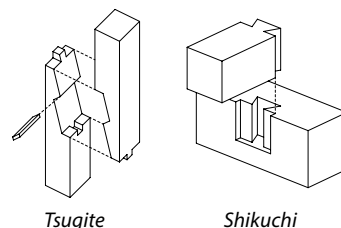
To assembly beams and columns of the structural members in wooden architecture is called *Kigumi*. Joints of members in *Kigumi* are *Tsugite* & *Shikuchi*. Carpenter's expertise is necessary for processing various forms of wooden pieces according to the use. Easy to take apart and rebuild without hurting the members by removing stopper and wedge at the joinery. Outstanding aspect for recycle and sustainability.



1 Tsugite & Shikuchi

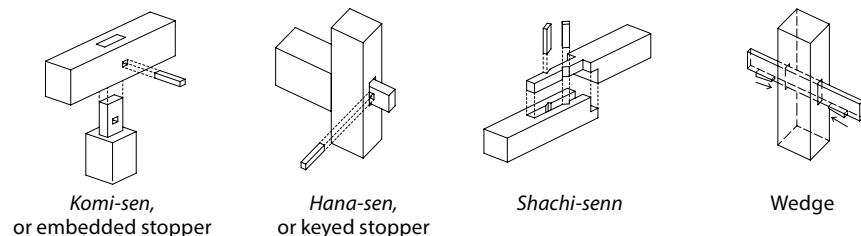
Tsugite is a joint to extend a member ; column & column or beam & beam.

Shikuchi is to joint members in different directions ; column & beam or girder & beam.



2 Sen & Kusabi (Stopper & Wedge)

Use different *Sen* or *Kusabi* for different joints. Different types of *Sen*, according to the form of joints and way of connections. *Kusabi* that firms up a through tie-beam, is generally applied the at the top of it, but is applied at the bottom here in Nara Machiya.



VOICE

Technique cultivated and passed down over years — wishes of carpenters working on Machiya —

Joints could be weak points in architectural structure, since the wood has to be carved to process. Therefore carpenters apply proper joinery considering the nature of wood, the balance of structure, and the order of assembling, so as the framework to be able to bare the long-term load and vibration. Each joint has different procedure and tools for it. Daily effort of practicing the use and maintenance of tools are necessary. It is the traditional technology that has been passed down and cultivated by the predecessors.

chapter 4

History and Site-plotting

Nara-machi is the outer end (*Gekyo*) in the east of ancient capital (Heijokyo) in the Nara period (710 - 794). Going through the ups and downs of the major temples & shrines that remained after the relocation of the capital, it has formed an industrial town* called Nanto (Southern Capital) by the Edo period. Current site-plotting still keeps the original grid of town planning .

*Nara bleached cotton cloth, sake, sumi-ink, itto-bori (wooden sculpture of one-knife carving), inn management.

1

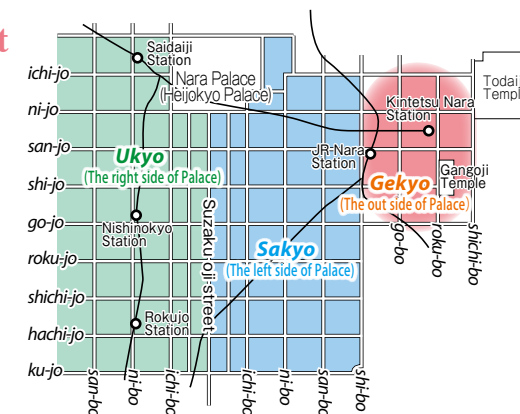
Jo-bo gridiron street plan of Heijokyo.

Jo East-west street. Numbering the street *ichi-jo*, *ni-jo*, from the north, up to the ninth.

Bo North-south street. Centering Suzaku-oji street, number *ichi-bo*, *ni-bo* up to the forth on both sides (*Ukyo* & *Sakyo*).

Gekyo Refers to the extended area of *Sakyo* to the east.

*Jo & Bo are broad streets.

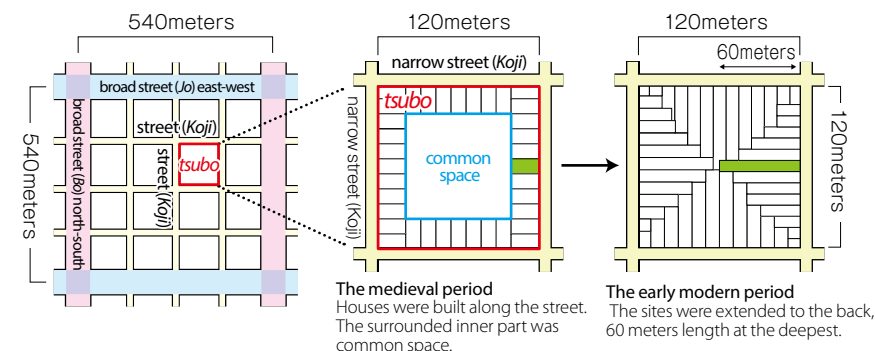


2

Zoning of Jo & Bo gridiron street and the changes

Area surrounded by *Oji* (broad street) is called as *Bo*, and the smaller area divided by *Koji* (narrow street running in gridiron pattern) is *Tsubo*.






From the early to middle of the Edo period, each site began to push back the rear boundary gradually in the ancient grid system, sharing the limited frontage facing the street. As a result, an unique form of site called eel's bed, long and narrow, was shaped.









©Irregular sites and zig-zag streets one often sees are the reminiscent of temple's precincts gradually broken into townhouses.







Representative Nara Machiya

Listed by areas (Naramachi, Kitamachi, Takabatake), types of cultural properties, the year of construction, and the order of the Japanese syllabary. (as of January, 2018)

1		Fujioka Family House	Nara-machi / Gangoji-cho Edo period (late 18th C)	Important Cultural Property
		Used to run a business with Machiya-style doors and windows widely open. Timber lattice and wall with small door on the north side, and a drawing room in the back. The year of construction is old, and keeps the character of merchant's house. An important building as typical Nara Machiya.		
2		Hosokawa Family House	Nara-machi / Minamijyodo-cho Edo period (early 19th C)	Nara-Prefecture-designated Tangible Property
		A Japanese raw candle shop since Edo period to around 1960. Though it has a typical merchant's façade and relatively old, the building height is rather tall. Timber lattice on the north side, with dropped roof. An important building as typical Nara Machiya.		
3		Mori Family House	Nara-machi / Minamijyodo-cho Meiji era (middle of Meiji era)	Nara-City-designated Property
		Built as an annex for a retired family member. Façade has the Machiya-style door and embedded timber lattice. Wall between the eaves are low. A good example of small townhouse in Nara-machi.		
4		Kioku Family House	Nara-machi / Shibanoshinya-cho Edo period (late 18th C), expansion in the Meiji era	Registered Tangible Cultural Property
		Shopfront type of Machiya. Construction dates are known from <i>muna-fuda</i> *, and that shows the changes of building. Keeps the very good appearance of traditional Nara Machiya. * a wooden plate with construction date, kept at the ridge		
5		Tamura Seihoen Chaho (tea shop)	Nara-machi / Shonami-cho Late Edo period	Registered Tangible Cultural Property
		Built as an inn. Full two-story height, rare for Machiya in the Edo period. During the World War Two, the façade on the first floor was renovated, but the passageway inside has remained. Keeps the very good appearance of traditional Nara Machiya.		

6		Masaki Family House, Main house & others	Nara-machi / Bishamon-cho Late Edo period	Registered Tangible Cultural Property
		Typical Nara Machiya with <i>Tsushi</i> attic floor. Facade at the first floor was renovated in recent years, following the traditional Nara Machiya designs. Behind the tall wall is a small courtyard, in front of the recessed part.		
7		Matsuyama Family House, The north Main house & others	Nara-machi / Nishinoshinya-cho The south Main house : Late Edo period The north Main house : End of the Edo period Corridor & storehouse : Early Showa era	Registered Tangible Cultural Property
		The north & south houses aligned but one is recessed, creating an unique view. The south is older for its low ceiling height and for having no rooms on the second floor. The construction year is 1829, known by a <i>muna-fuda</i> . A standard Nara Machiya.		
8		Sakamoto Family House	Nara-machi / Shonami-cho End of the Edo period	Registered Tangible Cultural Property
		The main house is built after the earthquake in 1854. The vacant land in the south is prepared for possible earthquake. The eaves at the <i>Tsushi</i> , or attic floor, is quite low. Used to have traditional façade, but renovated after the War.		
9		Yoshida Kacho shop, Yoshida Family House, Main house	Nara-machi / Shibanoshinya-cho Shop : End of the Edo period Main house : 1937 (Showa 7)	Registered Tangible Cultural Property
		The shop was reformed to a storehouse style, and the earthen-floored space of main house changed to a shopfront style in the middle of Showa era. The appearance of the Main house is a sophisticated design, modern and well balanced.		
10		Zeitakumame-hompo Main shop & others	Nara-machi / Tsunofuri-cho Early Meiji era (former drawing room is in 1951, Showa 26)	Registered Tangible Cultural Property
		Main house was reduced at the front for expanding the road in the Meiji era. Its rigid appearance, three Insect-cage-like windows painted with black plaster and wing walls, shows the townscape on the Sanjo Street in the old days.		
11		Okada Family House, Main House & others	Nara-machi / Kasasagi-cho Main house : Early Meiji era Detached room & corridor : Taisho era Storehouse : 1930, Showa 5	Registered Tangible Cultural Property
		Built around the end of Edo shogunte government to the Meiji era, when the owner used to work as a midwife. Very likely as an old Machiya, the front elevation is low. There remain some traces that all the lattice doors used to be operable.		

12		Nara-machi / Imazushi-cho Registered Tangible Cultural Property Main house, corridor, storehouse : 1915 (Taisho 4) Detached room : Early Showa era Masonry wall : 1915 (Taisho 4)	The south roof over the passageway is dropped. Lattice façade built over the shop area on the north side. Insect-cage-like windows and wing walls at <i>Tsushi</i> attic level. Large scale Machiya in the Taisho era, designed and built well with high quality materials.
13		Nara-machi / Nakanoshinya-cho Registered Tangible Cultural Property Main house : 1917 (Taisho 6) Detached room : 1913 (Taisho 2) Outside bench : 1917 (Taisho 6), Storehouse : Late Edo period	Located in the center of Nara-machi. Shopfront design with <i>Tsushi</i> attic floor, lattice façade and windows. Free design, such as the north garden along the house, and a hip roof for the central part whose ridge turning to different direction.
14		Nara-machi / Kidera-cho Registered Tangible Cultural Property End of the Taisho era	Stands on a dead end. Low elevation with glass sliding doors and lattice makes Machiya-like appearance. Ready-made metal brackets show its year of build . Now, used as an accommodation for "house hotel".
15		Nara-machi / Kasasagi-cho Registered Tangible Cultural Property Taisho 15	Built by Ogawa Matabei, running a <i>sake</i> brewery and a liquor dealer. Shopfront design Machiya for the shop and residence. The house was recessed by 3 meters for a planning of the front road expansion at that time. Tram plates for a handcar still remain, feature of a modern merchant.
16		Nara-machi / Tsubai-cho Registered Tangible Cultural Property Taisho to early Showa era	Traditional <i>sumi-ink</i> shop founded in the 16th century. Shopfront, and many buildings such as office on the south side, factory in the back support the traditional ink block manufacturing. Rigid and stately appearance with black plaster finish. Large scale and high quality design.
17		Nara-machi / Kidera-cho Registered Tangible Cultural Property Showa 3	A farmer's house, with spacious earthen-floored room and 2x2 grid room layout. But applying many elements of townhouse, such as different types of lattice and tiled roof, the house shows a modernization of farmers' housing.

18		Nara-machi / Kasasagi-cho Registered Tangible Cultural Property Showa 8	Built recessed due to a road expansion plan. Early Showa Machiya appearance, two-story building with glass-shoji and grill window show the years of construction. Middle corridor on the second floor is also a modern element.
19		Nara-machi / Kita-Kyobate-cho Registered Tangible Cultural Property Showa 10	Tall Machiya with lattice and large Insect-cage-like windows at <i>Tsushi</i> attic level. Eaves hang out by canti-girder. The old photo shows the exterior walls and the attic window used to have black plaster finish.
20		Kitamachi / Narasaka-cho Registered Tangible Cultural Property Edo period (1862)	A former vegetable & fruit dealer at the northernmost Nara-machi. Used to stand facing the road. Large opening with lattice and traditional façade. Historical building in a once prosperous area, as a central of trade.
21		Kitamachi / Horen-cho Registered Tangible Cultural Property Showa 6	A farmers house with Machiya elements in its appearance. Also its wall attaching to the next door in the strip site is common to townhouse. But a huge beam in the earthen-floored space is a feature of farmer's house.
22		Takabatake / Takabatake-cho Nara-City-designated property Edo period (former 19th C)	Main house, drawing room, and three storehouse stand in a large site of 9 <i>ken</i> (16.2 meters) by 15 <i>ken</i> (27 meters). The original layout of buildings are well preserved. Lattice façade and cloud shaped Insect-cage-like windows.
23		Takabatake / Takabatake-cho Nara-City-designated property Edo period (former 19th C)	Typical Nara Machiya façade with lattice embedded in eave-girder, in both the main house and extended drawing room. For the year of construction of the extended part being clear, the house is a standard of other Machiya's chronicle.

Kindly refer to Nara Machiya Tour Map, a separate volume, for the location of each machiya.

We hope all the people who are engaged in Nara Machiya to know the good aspects of it, and to pass down the style & ideas on renovation or rebuilding.

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Issue

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