Access Control Credentials for your Gated Community.

What should the Residents use?

Hancock Gate Operator Systems Inc. notices on many inquires that clients/prospects have various ideas and reasons for specific credentials that they wish to use as a means of Access Control for gated entry and/or amenities areas. So, below is an explanation of the pros and cons of each type of credential.

There are a few questions one needs to answer first, before deciding on what type of credential. The most important question is: “What is the community trying to accomplish?” The community must determine the factors, criteria, issues, etc., that are of greatest concern in regards to controlled access. Note that the word “security” is not used, since this is not security. Keep the focus on the solution first, and then other options can be considered. For example, if the community decides that the mobility of a credential is of utmost concern, the choices are narrowed down. The statement does not take into account the price, which some decision makers seem to gravitate towards before determining the proper solution first. When looking at price, make sure it is in relation to the cost per resident and the benefit received. For example, a recent prospect inquired about using barcode label as a credential for existing vehicles but hesitated at an estimated cost for an installed reader. However, when it was relayed as an additional ONE TIME cost of a whopping $2.50 per resident, he viewed the benefits in a different light.

The experienced systems integrators are there to assist you. According to Wikipedia, “A Systems Integrator is a person or company that specializes in bringing together component subsystems into a whole and ensuring that those subsystems function together.” Most, if not all, System Integrators are licensed by your state or county and just as one asks for proof of insurance, ask for proof of a valid contractor’s license. In many areas, the Integrator is at a minimum, a low voltage electrical contractor. This is extremely important when permits are required and when life safety is a concern. The Fire Marshall must approve means of egress for people, whether it is a room, pool area, or a parking garage. By posing the proper questions, the Integrator can provide a plan that should be able to satisfy your needs.

Below are some factors that may assist one is the decision making process. The information is general, in nature, and is not intended to address all types of credentials in the marketplace. These are the most common, based upon experience, which communities utilize.

Programmable

The most important factor regarding any credential, is that each one is programmable. This means that each credential, regardless of type, has a Facility Code (FC) and ID number. The
facility or site code, allows the site to differentiate their credentials, from another site. For example, if Site A has FC 01 and Site B has FC 02, they can have the same card ID number but the Facility is checked first, then the card number. Granted, this is assuming the site uses the Facility code.

Thus, if one is lost, stolen, or the credential needs to be suspended/deleted, the individual credential is the only one affected. If someone attempts to use the suspended/deleted credential, the access control system will deny entry but will record the attempt. Some communities issue credentials to vendors, contractors, etc. whose access is usually limited by day or time. Should someone attempt to use the credential at unauthorized times, a record of the denied entry is recorded.

Smoke and Mirrors Example – The Access Control system was managed by the gate/access vendor for a community in Florida, which utilized programmable transmitters. The property manager relied on the vendor who sold them the transmitters and told them they were preprogrammed in the gate system, so they worked when delivered. This was being done on approximately eight communities in this development. I live in Maryland and drove my vehicle to Florida. I also use the same transmitter manufacturer and low and behold, my transmitter worked there also. Their vendor loaded the entire possible sequence of numbers, so no matter what transmitter number they sold the client, it would work. However, they ignored the Facility code, which is an additional step of control. So anyone who had a transmitter from that specific manufacturer, has free access to these communities.

There are some non-programmable card and transmitter system out in the market place. The non-programmable transmitter is usually one with a set of dipswitches, where the dipswitch setting, must match the receiver dipswitch. Some card system use magnets, for programming within the cards. This is considered a common code since every person that has these credentials, have the same code. These types are not recommended for access control since there is a lack of control. Should one become stolen or lost, the only way to stop an unauthorized person from using the transmitter, is to change the code, ON EVERY SINGLE TRANSMITTER. If it was a nonprogrammable card, then all cards must be replaced.

Price of Credential

Proximity Card – Usually cheapest, depending on what manufacturer is used. $3-$6
Barcode Label – Same range as Proximity Card $4
Keyfob – proximity credential, designed to remain on a keychain. $5-$8
Magnetic Stripe Card – swipe or insert. $5-$15
Transponder – Focus on the Windshield sticker tag. $10-$18
Transmitter – Visor or Keychain $20-$50
Credential Readers (Readers listed with least expensive first)

- **Proximity Card/Keyfob** – the readers work the same for both.
- **Transmitters** – can use for gates and amenities.
- **Magnetic Strip Reader** – read heads are a maintenance issue since they will wear out and may be considered old technology.
- **Transponder** – RFID (radio frequency identification) is considered the newest technology.
- **Barcode Scanner** – Utilizes a reflective material so the label cannot be copied. In addition, the scanner uses 2 beams, for dual read capability, so the sun issue is eliminated.

**Ease of Transferability**

- **Transmitter** – Easy to hand to another person, take from vehicle to vehicle, some can be copied into the vehicles Homelink system.
- **Proximity Card/Keyfob** – Just hand it out.
- **Transponder** – Recommend using one that is affixed with an adhesive, like a sticker, or with a security/anti-tamper option.
- **Barcode Label** – cannot copy and too difficult to remove.

Each of the above credential types will work with most access controls systems. The readers that read the credential, generally read and transmit the credential information ONLY. The access decision is made by the access control panel/software. Make sure the credentials are in a standard industry format which is 26 bit weigand.

**Important Note:** Multiple credentials can be utilized. For example, a transponder or barcode label can be used at the gated entry and a proximity card/keyfob can be used at the amenities areas.

**Other types of credentials**

- **Proximity cards with Magstripes**
- **Printable Proximity cards with Magstripes** – great for clubs.
- **Biometric**- Hand and Finger Print – societal concerns regarding germs, diseases, and Big Brother.
How the credentials are actually used.

Proximity Cards – The user must present the card, generally within 2”-6”. The read range varies with the reader model installed, some up to 24” or more. Note that as the read range gets longer, the reader itself is larger so aesthetics is a factor. Users generally keep in their wallets or purses and must take out for use, which may be considered a disadvantage. At a gated entry, one must open the vehicle window which exposes the driver to the elements or someone hiding in wait.

Keyfobs – The user must present the keyfob, generally within 2”-6”. The read range varies with the reader model installed, some up to 24” or more. Note that as the read range gets longer, the reader itself is larger so aesthetics is a factor. Users generally keep the key fob on their keychain. At a gated entry, this is not real feasible if on the keychain with the car keys, plus one must open the vehicle window which exposes the driver to the elements or someone hiding in wait.

Transmitter – Transmits up to 100’ or more from the gate reader but a community doesn’t want this type of range. A recommended range of 15’-35’ should be used. If using for entry and exit at the same gate location, will need arming loops or multi-button transmitters. The arming loops require a vehicle to be present, in order for the transmitter signal to be relayed. However, if using an arming loop at an entrance and exit lane, near each other, and a vehicle is present in both lanes, then both gates will open. If using a two button transmitter (not an arming loop), expect residents to press the wrong button, which will open the wrong gate. To this day, a typical community that uses transmitters, experiences the “ghost” openings on the entrance lane during the initial months, which is caused by residents using the transmitter to exit their communities, where the exit lane is designed to open automatically when existing.

One dual feature of the transmitter is the use for access control at the amenities area. These readers have a read range of 2”-4” so a resident with a keychain transmitter, can use the transmitter for the entry gate AND the amenities area, thus only a single credential is needed.

Barcode Labels – Allows hands free AVI (Automatic Vehicle ID) so as the vehicle passes the reader, the scanner reads the barcode and if valid, the gate will open. The read range is approximately 2’ to 6’. Not for use for Amenities area. Note: There are other barcode readers that read a barcode on an access card, but the use and popularity has diminished and the scanner is different. Applications which experience heavy snow and ice, may not be suitable, if the label cannot be read.

Transponder – Another form of AVI, many people know the transponder as a toll tag type credential. The read range can be 10’ to 35’ out for the gates. If a swing or slide gate, the reader distance from the gate is not as critical as a barrier gate. If a community is
using barrier gates, the reader should be placed within 4’ of the barrier gate. The reason for this placement is a trap occurs when a reader is too far back from the barrier gate and the fact that the gate closes after a vehicle clears the loop. So if a misread occurs and a vehicle passes the reader (now they are in front of the gate) and another vehicle passes the reader with a valid transponder, the barrier gate will open, the first car will get thru, the barrier gate will close and the second car is trapped between the gate and reader.

The Windshield Sticker tag is affixed to the interior side of the windshield. The tag is read by the reader and if a valid tag, the gate will open. The tags are difficult, if not impossible to remove, without disabling them. Other transponder tags include license plate tags and hang tags. Each tag is designed for different applications and solutions.

As technology changes, your Systems Integrator will change with it, by providing the current products that provides you, the customer, the desired solution.