

# Impact of Act 039 Relating to Movie Theaters

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Department of Business,  
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This publication is produced by the Research and Economic Analysis Division (READ) of the Department of Business, Economic Development & Tourism (DBEDT) as mandated by Act 211, SLH 2017.



The DBEDT Research and Economic Analysis Division wishes to thank the many agencies stakeholders who have provided valuable input into the development of this analysis.

## Executive Summary

Act 211, SLH 2017 requires the Department of Business, Economic Development & Tourism to conduct a survey of the motion picture theaters that are covered by Act 39, Session Laws of Hawaii 2015, to determine the operational and financial impact that Act 39 has had on the theaters and any other relevant matters resulting from that Act. Two movie theater companies were identified to be impacted by Act 39 and were surveyed in October 2017.

Responses from the two movie theaters showed that the two theaters have a total of 191 screens statewide and have approximately 185 showings per week with open-captions. The two theater companies surveyed indicated that they have reduced attendance at open-caption showings compared with non-open-caption showings. Based on the self-reported data provided by the theaters, the difference in aggregate patron attendance between open-caption showings and non-open-caption showings was estimated at 94,755 patrons per year for the two theater companies combined. We were unable to convert the difference in attendance to a monetary figure due to not having access to Hawaii theaters' movie rental cost nor the cost of goods sold for concessions. Furthermore, due to resource limitations, the analysis did not test for causation for the difference in attendance.

## Introduction

In the 2017 Hawaii Legislative Session, HB475 Relating to Movie Theaters passed becoming Act 211 (Session Laws of Hawaii 2017). This act requires movie theaters to show one open caption showing per week or offer closed captioning devices to patrons. Furthermore, the Act mandated that the Department of Business and Economic Development and Tourism (DBEDT) conduct a survey to determine the operational and financial Act 39 (Session Laws 2015) has had on theaters.

Act 39 Relating to Movie Theaters was enacted in 2015. This mandated providing open movie captioning and audio description for the State's movie theaters as summarized below:

- (a) Requires a public accommodation that owns, leases, leases to, or operates a motion picture theater in more than two locations in the State to provide open movie captioning during at least two showings per week of each motion picture that is produced and offered with open movie captioning.
- (b) Requires a public accommodation that owns, leases, leases to, or operates a motion picture theater in the State to provide, upon request, audio description of any motion picture that is produced and offered with audio description. Effective January 1, 2016 and sunsets January 1, 2018.

In addition to state law, at the federal level, in 2017 the U.S. Department of Justice (DOJ) issued a rule that amends the Department of Justice regulation implementing title III of the Americans with Disabilities Act of 1990 (ADA). The ADA prohibits discrimination against persons with disabilities by public accommodations and the 2017 rule states that, "public accommodations

that own, operate or lease movie theaters are required to provide closed movie captioning and audio description whenever showing a digital movie that is produced, distributed or otherwise made available with these features.” This new federal rule is effective January 17, 2017 and theaters must be compliant by June 2, 2018.

Table 1 provides an outline of legislation regarding captioning and audio description as related to Hawaii movie theaters. In summary, Hawaii movie theaters are required to provide closed captioning devices and audio captioning devices to patrons upon request (federal ADA Title III rule). Additionally, movie theaters in Hawaii, with more than two locations in the state, must offer one open captioning showing per week or offer a personal closed captioning system (Hawaii Act 211 S.L. 2017), reducing the number of open caption showings required by Act 39 (S.L. 2015). It is important to note that these requirements only apply to motion pictures that are produced with captioning and audio description.

**Table 1. Legislation and Mandates Relating to Hawaii Movie Theaters**

	<b>Closed Captioning Device</b>	<b>Open Captioning Showing</b>	<b>Audio Description Device</b>
<b>U.S. Justice Department ADA Title III Rule (2017)</b>	Provide to patron upon request	N/A	Provide to patron upon request
<b>Hawaii Act 211 (2017)*</b>	Covered by ADA Title III (above)	1 showing per week (or offer closed caption)	Covered by ADA Title III (above)
<b>Hawaii Act 39 (2015)*</b>	Covered by ADA Title III (above)	2 showings per week	Provide to patron upon request

\*for theaters with more than two locations

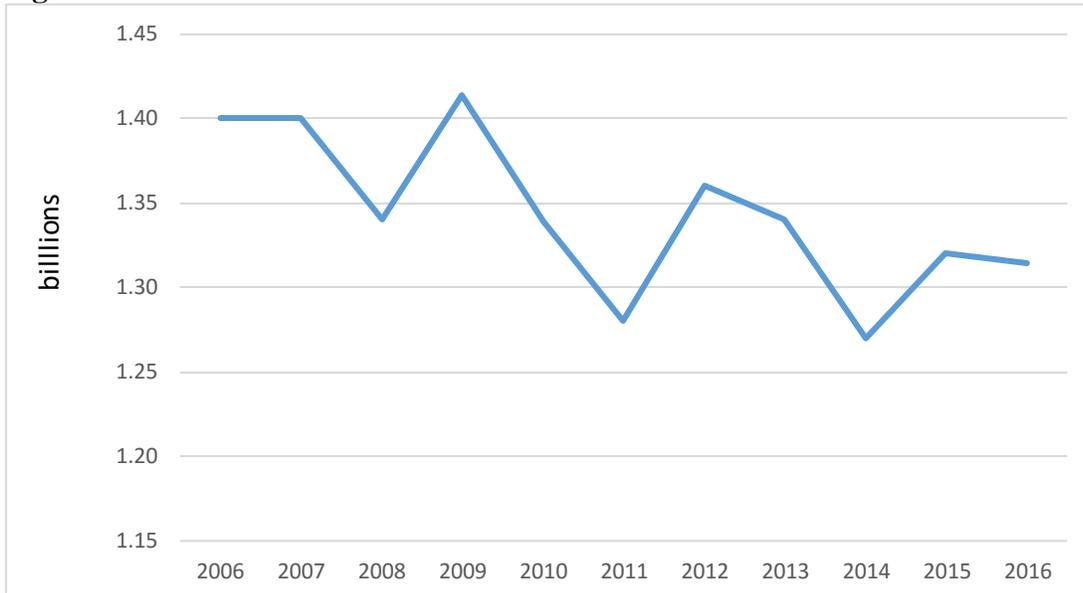
Source: State of Hawaii Legislature and U.S. Justice Department

The purpose of this report is to provide an estimate of the financial and operational impact of Act 39 on Hawaii movie theaters as required by Act 211. In order to understand the context of the impact, it is important to present an overview of the motion picture theater industry (NAICS 512131) and recent trends impacting this industry at both the state and national level.

**Industry Background**

The motion picture theater industry has gone through dramatic changes as technology has advanced. Today, consumers have a vast number of movie viewing options outside of going to a theater including streaming services, digital downloads, and cable pay per view. Between 2006 and 2016, U.S. movie attendance declined from 1.40 billion to 1.31 billion or 6.2 percent (Figure 1).

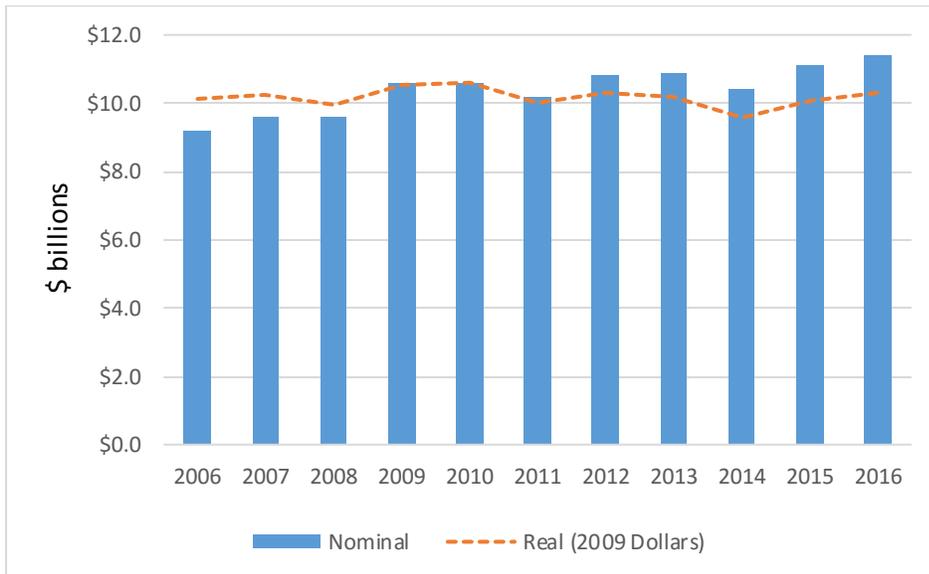
**Figure 1. U.S. Movie Attendance 2006-2016**



Source: National Association of Theatre Owners Annual Statistics

In spite of declining attendance, total box office revenues have increased in nominal terms and held steady in real terms, after adjusting for inflation (Figure 2). The declining attendance has been offset by rising ticket prices. Between 2006 and 2016, total box office revenues in the U.S. and Canada increased from \$9.2 billion to \$11.4 billion, an increase of 23.9 percent. However, after adjusting for inflation, this was a real increase of a mere 2.1 percent.

**Figure 2. Box Office Revenue for U.S. and Canada, 2006-2016**



Source: Motion Picture Association of America Theatrical Market Statistics

**Comparison of U.S. and Hawaii Employment**

In 2016, the movie theater industry had 24 establishments in Hawaii, which supported a total of 769 jobs (Table 2). For the same year, the U.S. had 4,365 establishments with 139,922 jobs. For the period of 2006 through 2016, U.S. movie theater jobs grew by 7.8 percent and Hawaii jobs grew by 2.1 percent. It is interesting to note that both Hawaii and the overall U.S. had an average of 32 jobs per establishment.

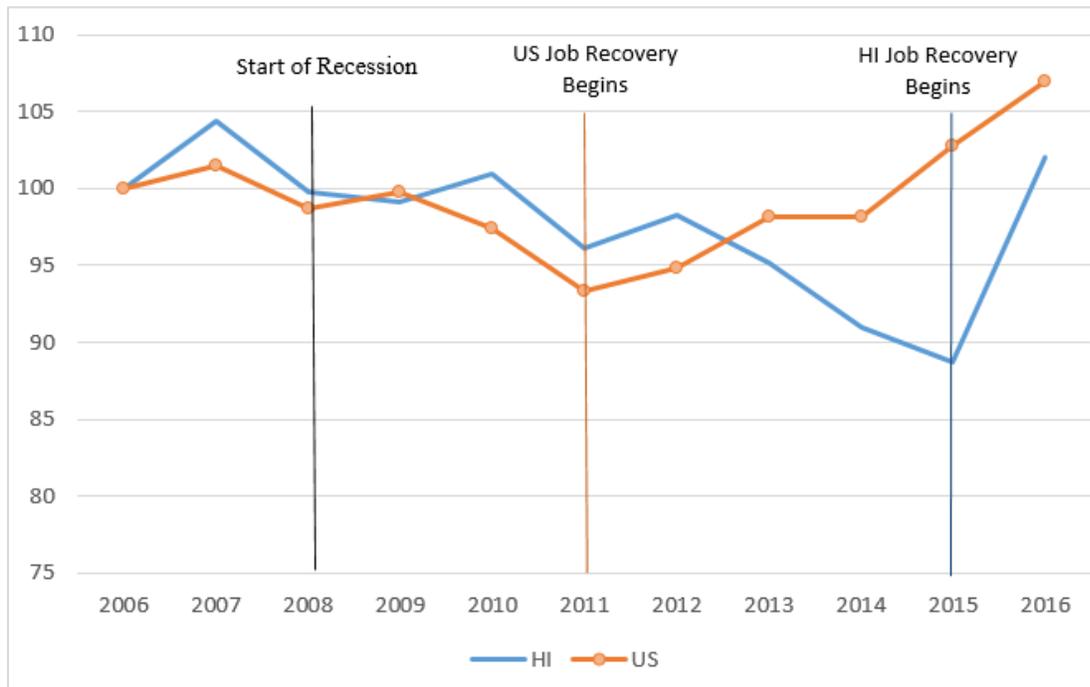
**Table 2. Movie Theater Jobs and Establishments (NAICS 512131)**

	No. of Jobs (2006)	No. of Jobs (2016)	Job Growth (2006-2016)	Establishments (2016)	Jobs per Establishment
U.S.	129,848	139,922	7.8%	4,365	32
Hawaii	753	769	2.1%	24	32

Source: U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW), DBEDT calculation

Movie theater jobs in both Hawaii and the U.S. were impacted by the recession, beginning in late 2007 (Figure 3). For the U.S. movie theater industry, job recovery began in 2011 and has continued an upward trajectory through 2016. On the other hand, Hawaii’s job recovery lagged that of the U.S. and did not begin until 2015.

**Figure 3. Movie Theater Jobs 2006-2016 (indexed to 2006=100)**



Source: U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW), DBEDT calculation

As of 2016, both the U.S. and Hawaii have recovered, with movie theater jobs that exceeded the pre-recession numbers. Hawaii had a sharp increase in movie theater jobs in 2016, and this was mainly due to the opening of two new multiplex theaters in Kapolei; Kapolei Commons 12 by Regal Cinemas and Ōlino by Consolidated Theatres.

### County Analysis

As shown in Table 3, a majority of the movie theater jobs were located in Honolulu County, comprising 78.8 percent of the total. Honolulu was followed by Maui County at 71 jobs (9.2 percent), Hawaii County at 69 jobs (9.0 percent), and Kauai County with 23 jobs (3.0 percent). For the 2006 to 2016 period, Honolulu County increased jobs by 13.9 percent, while the other counties had fairly significant declines.

**Table 3. Movie Picture Theater Jobs by County**

County	Jobs (2016)	Job Growth (2006-2016)	Establishments (2016)	Jobs per Establishment
Honolulu	607	13.9%	14	40
Maui	71	-19.3%	4	18
Hawaii	69	-31.0%	5	14
Kauai	23	-28.1	1	22

Source: EMSI, U.S. Bureau of Labor Statistics QCEW, DBEDT calculation

### Types of Jobs

In 2016, Hawaii's movie theaters employed 769 workers and this was a 2.0 percent increase from 2006. A majority of these jobs were related to three categories: concessions, ticket takers, and cashiers. These three categories comprised 76.6 percent of Hawaii's theater jobs and had a weighted average hourly wage of \$9.82 per hour.

**Table 4. Jobs by Classification for Hawaii's Movie Theaters (NAICS 512131)**

SOC	Description	Jobs (2016)	Job Growth (2006-2016)	Median Hourly Wage
35-3022	Concession & Counter Attendants	255	9.0%	\$10.24
39-3031	Ticket Takers & Lobby Attendants	250	0.0%	\$9.23
41-2011	Cashiers	84	-1.0%	\$10.31
39-1021	Supervisors of Service Workers	34	0.0%	\$20.96
35-3021	Food Prep & Cooks	20	-5.0%	\$9.71
11-1021	General & Operations Managers	17	0.0%	\$43.89
35-1012	Food Prep Supervisors	14	0.0%	\$17.38
41-1011	Sales Supervisors	10	0.0%	\$20.13
35-3041	Food Servers	10	0.0%	\$11.63
	Other	75	N/A	N/A
<b>Total State</b>		<b>769</b>		

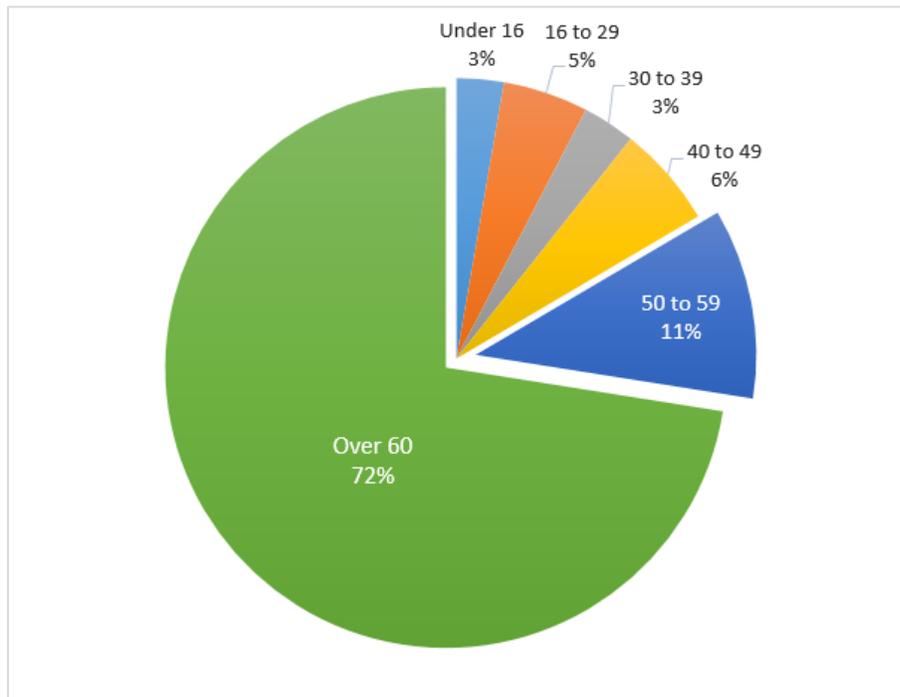
Source: EMSI and DBEDT calculation

### Age Demographic for Population with Hearing Difficult

The U.S. Census Bureau’s American Community Survey (ACS) estimates the segment of the population with “hearing difficulty.” Hearing difficulty is defined in the survey as “deaf or having serious difficulty hearing.”<sup>1</sup> In 2015, it was estimated that there were 53,697 Hawaii residents with hearing difficulty, which comprised 3.8 percent of the state’s population (U.S. Census Bureau, ACS PUMS 2015).

In looking at the demographics by age, the data shows that 83.0 percent of those with hearing difficulty in the state are age 50 and over. From this, we can see that aging coincides with hearing impairment and this adds an important dimension to the analysis. Figure 4 shows the population with hearing difficulty by age, with the over 60 age group at 72.0%, the 50 to 59 age group at 11.0%, and under 50 age group at 17 percent.

**Figure 4. Hawaii’s Population with Hearing Difficulty by Age**



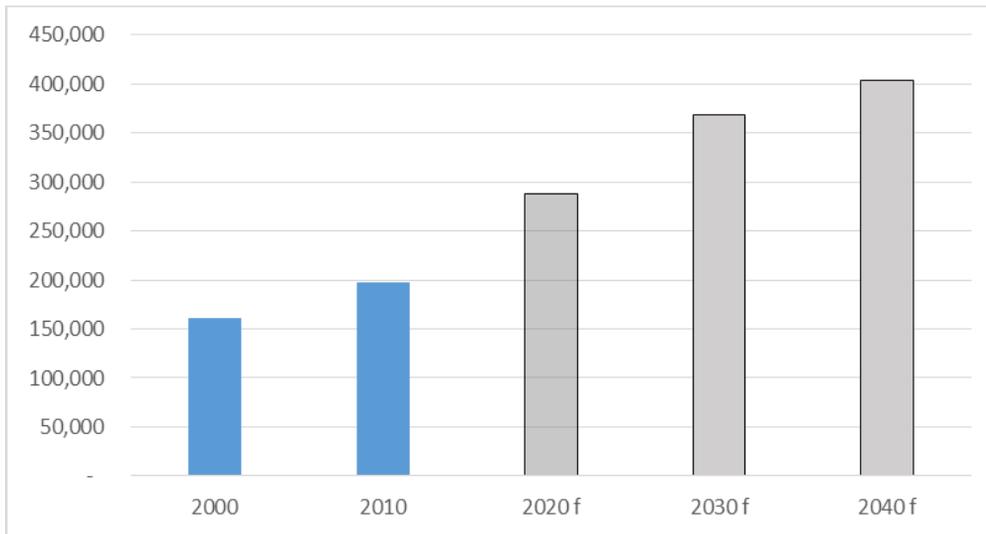
Source: U.S. Census Bureau American Community Survey, 5-year PUMS Data (2011-2015).

It is also important to note that the over 65 market segment is projected to increase substantially as the baby-boomer demographic ages (Figure 5). As shown in the next figure, the over 65 demographic will double by 2040, over the 2010 U.S. Census figures.

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<sup>1</sup> U.S. Census Bureau, American Community Survey overview, <https://www.census.gov/people/disability/methodology/acs.html>

**Figure 5. Projection of Hawaii's Population Over 65 to 2040**



\*"f" denotes forecast

Source: DBEDT, Population and Economic Projections for the State of Hawaii to 2040

### Methodology and Results

There were two movie theater companies that were impacted by Act 39. In order to estimate the impact, a survey was designed that requested data for open-caption and non-open-caption showings (a copy of the survey is included in the appendix). It is important to note that, with digital technology, there is minimal operational costs for providing open-captions appear on screen. Therefore, the key to estimating the impact on theaters is the differential in attendance figures between open-caption and non-open-caption showings.

One research design issue was the variability of show times. A preliminary analysis of open-caption showings by time of day and day of week showed that a majority of open-caption showings are Sunday through Thursday before 8:00 P.M. (Table 5). Therefore, the survey stipulated that comparable show times be used when comparing open-caption and non-open-caption showings. Another important part of the estimate was to calculate the "shift" in patrons from an open-caption showing to a non-open-caption showing. For example, a patron that decides to forego an open-caption showing may decide to go to a non-open-caption showing at different time, in which case the theater "recaptures" the lost patron. This was addressed by a separate question included in the survey.

**Table 5. Weekly Average Number of Open-Caption Shows by Time and Day**

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
10:00-12:00	2	1	0	1	5	4	6
12:01-14:00	7	7	4	9	2	6	6
14:01-16:00	3	5	5	3	0	2	1
16:01-18:00	6	4	3	1	0	2	3
18:01-20:00	16	8	7	5	0	0	3
20:01-22:00	2	4	1	2	0	1	4
22:01-24:00	2	0	2	3	0	0	3
Total	38	29	22	24	7	15	26

Source: DBEDT estimate based on four weeks of data (mid-September to mid-October 2017)

The survey was designed to collect data for two scenarios; 1) average attendance at open-caption showings and 2) average attendance at non-open-caption showings. The first draft of the survey was circulated to test the clarity and accuracy. Based on the comments received, the survey was revised and finalized. The final survey instrument was sent out on October 11, 2017.

The data collected from the surveys was analyzed and compiled. It is important to note that both movie theater chains indicated they were concerned about the proprietary nature of their data. This was especially true because there were only two theater chains that were in the targeted population (movie theaters with more than two locations in Hawaii). With only two theaters used for the estimate, there was the possibility of reverse engineering results to recreate company specific responses. Therefore, the survey results were confidential other than overall descriptive data and the estimate of foregone patrons.

Table 6 shows a summary of the aggregated data of the two theater chains surveyed. Combined, the two chains had a total of 191 screens in Hawaii, which was approximately 90 percent of the state's total screens (National Association of Theatre Owners, 2017). The remaining 10 percent of screens in the state were those with less than three locations and, therefore, were not included in the survey. These two theaters provided an average of 185 open-caption showings per week or 9,620 per year in the state (data varies slightly from Table 5 due to different period being covered).

As noted above, the marginal cost for open-caption showings is minimal due to the advent of digital technology. Therefore, the impact was calculated using the difference in attendance figures between open-caption showings compared with non-open-caption showings as reported in the survey. The annual difference in attendance was estimated at **94,755 patrons per year**. We were unable to convert the reduction in patrons to a monetary figure due to not having access to Hawaii theaters' movie rental cost and cost of goods sold for concessions. Furthermore, due to resource limitations, the analysis did not test for causation for the difference in attendance.

**Table 6. Summary of Movie Theater Survey Results**

Combined No. of Screens of Survey Respondents	191 screens
Combined No. of Open-Caption Showings per Week	185 avg. showings
Annual Difference of Attendance Between Open-Caption and Non-Open-Caption Showings (combined total)	94,755 patrons

Source: DBEDT calculation from survey

A final issue addressed in Act was the cost of providing audio description (AD) for patrons as mandated by Act 39 (SL 2015). We estimated the total annual cost for providing AD devices for patrons as \$22,084 combined for both theater chains. This was based on the cost of the equipment and devices depreciated over a ten year period. However, it is important to note that providing AD devices for patrons is also covered under the U.S. Justice Department ADA Title III Rule, which theaters must be compliant by June 2, 2018 (U.S. Justice Department, 2017). Therefore, the state requirement becomes a moot issue as of the federal compliance date.

## References

- Motion Picture Association of America. (2017). *Theatrical Market Statistics 2016*.  
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- U.S. Justice Department. (2017). ADA Title III Rule Overview.  
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## Appendix A: Survey Instrument

### Survey of Motion Picture Theaters Requested by Act 39 (2017)

**Thank you for participating in this survey – only aggregate statistics will be reported without identifying company specific information.**

#### Regarding your operations during the first half of 2017:

1. How many movie screens does your company have in the State of Hawaii? \_\_\_\_\_
2. On average, how many open-caption showings does your company show **per week** in Hawaii (including all screens in the state)? \_\_\_\_\_
3. Which of the following best describes attendance at open-caption showings (check only one):
  - A.  Attendance **is lower** at open-caption showings compared with attendance at showings without open-caption at comparable show times.
  - B.  Attendance is about **the same** at open-caption showings as attendance at showings without open-caption at comparable show times.
  - C.  Attendance **is higher** at open-caption showings compared with attendance at showings without open-caption at comparable show times.
4. If you checked “A” above (attendance is lower), what percentage of lost patrons would you estimate attend a showing at a different time (without open-captions)? \_\_\_\_\_%
5. If you checked “C” above (attendance is higher), what percentage increase would you estimate is due to the open-caption? \_\_\_\_\_%

*The following will ask about attendance at showings. Please use **comparable show times**. For example, if a majority of open-caption showings are in the afternoon, please use a similar time when estimating attendance at the non-open-caption showings.*

6. What is the average attendance per showing **without** open-captions? \_\_\_\_\_ patrons
7. What is the average attendance per showing **with** open-captions? \_\_\_\_\_ patrons

*The following will ask about average **revenue per patron** at open-caption and non-open-caption showings. Please include average ticket price and average concession sales amount per patron. When providing the estimates, please use comparable show times.*

8. For showings **without** open-captions, what is the average **revenue per patron** including ticket sales and average concession sales? \$\_\_\_\_\_ per patron
9. For showings **with** open-captions, what is the average **revenue per patron** including ticket sales and average concession sales? \$\_\_\_\_\_ per patron
10. What is your estimated annual cost of providing audio description for patrons upon request? \$\_\_\_\_\_ per year

***Thank you for your cooperation.***

## Appendix B: Summary of Testimony

HB 1272 was introduced during the 2015 legislative session and passed becoming Act 39.

Almost all the related testimonies submitted were in favor of the HB 1272. The two exceptions were from the Motion Picture Association of America, Inc. and Radcliffe and Associates, LLC. Both of these testimonies indicated that the law was unnecessary given that the US Department of Justice would soon issue regulations that would establish a national standard for all motion picture distributors. The two main themes among testimony received related to the perception that the equipment provided for closed captioned films is inconvenient, and the opinion that the current level of provisions at movie theaters were insufficient and unequal. 74% of testimony received related to the former while 82% pertained to the latter reason. Other reasons included testimony stating that audio descriptive narration of movies for visually impaired patrons was also necessary. Lastly, 3% of testimony letters received stated that open captioning would help children and English language students better learn and understand nuances in the English Language.

**TABLE 1: Reasons Given for Supporting HB 1272**

	Closed Caption Equipment Inconvenient	Current Blind / Deaf Provisions are Insufficient / Unequal	Need for Audio Descriptive Narration for Blind	Good for Improving English Reading Comprehension
<b>HB 1272</b>	93%	86%	5%	2%
<b>HB 1272 HD1</b>	47%	47%	47%	0%
<b>HB 1272 HD2</b>	24%	82%	24%	6%
<b>HB 1272 HD2 SD1</b>	58%	90%	10%	3%
<b>Total</b>	<b>74%</b>	<b>82%</b>	<b>13%</b>	<b>3%</b>

Source: [www.capitol.hawaii.gov](http://www.capitol.hawaii.gov)

## **Appendix C: Timeline of Caption Mandates**

The following is a timeline of Captioned Movie Access Advocacy as compiled by the National Association for the Deaf:

**1990** Title III of Americans with Disabilities Act (ADA) applies to movie theaters. US Department of Justice ADA regulations, Section 36.306(b), includes “open and closed captioning.” However, guidance for the regulations says, “Movie theaters are not required by Sec.36.303 to present open-captioned films.”

**1993** The National Center for Accessible Media (NCAM) is formed at WGBH. Tripod Captioned Films begins captioning feature films for special open-captioned movie screenings in theaters. Between 1993 and 1997, Tripod received 3 to 5 prints for 25 movies.

**1996** Movie Access Coalition, a subcommittee of the NAD, was established.

**1997** Rear Window Caption (RWC) display system debuted in California.

**1998** Direct-studio distribution of open-captioned movie prints began.

**1999** The Caption Center at WGBH captioned five movies for 10 RWC equipped theaters.

**2000** Movie Access Coalition renamed the Coalition for Movie Captioning (CMC). CMC charter member organizations: AGBell, ASDC, ALDA, CI Association, CAN, DSA, LHH, NAD, SHHH, and TDI. Oregon Case – Claims against Regal, Century, Carmike, and Cinemark theater chains. Case dismissed in 2002.

DC Case – Claims against AMC and Loews; class action. Court denied request to dismiss the case in 2003 (see below). Case settled in 2004.

About 16 RWC caption display systems installed by year end.

**2001** Connecticut captioned movie legislation introduced – did not pass. DTS Cinema Subtitling System (DTS-CSS) demonstrated with pilot showing of Pearl Harbor at TDI Conference.

**2002** CMC Theater Watch – Memorial Day Weekend: 30 states with no captioned movie. CMC member organizations: AGBell, ALDA, CAN, LHH, NAD, SHHH, and TDI. InSight Cinema formed to carry the mission of Tripod Captioned Films forward.

Texas Case – Claims against movie studios/distributors dismissed in 2003. Claims against movie theater operators (AMC, Cinemark, Regal, and Century) dismissed in 2004.

**2003** Movies begin to be produced with captions that can be projected on the screen in movie theaters with DTS-CSS caption display systems. DC Case – Court denied request to dismiss the case. Decided ADA could require showing “closed captioned” movies.

**2004** CMC supported federal legislation creating tax break for movie studios and theaters to caption movies and show captioned movies (“Dayton Amendment”) – did not pass. DC Case

Settled – Added RWC caption display systems to 6 AMC and 6 Loews theaters (50% of AMC and Loews theaters in DC area; about 5% of their screens).

New Jersey – Attorney General signed agreements with 4 movie theater chains (AMC, Clearview, Loews, and National Amusements) to have 39 RWC systems for 35 theaters (about 10% of 383 screens). Filed lawsuit against Regal Cinemas; settled in 2006.

About 190 RWC caption display systems installed; and 50 DTS-CSS caption projection systems installed by year end.

**2005** CMC member organizations: ALDA, DHHCAN, DSA, HLAA, NAD, TDI. Connecticut – Connecticut Association of the Deaf filed complaints with the Connecticut Human Rights Office against 33 movie theaters; case pending.

New York – Attorney General signed agreements with 8 movie theater chains with about 129 theaters and 1,132 screens. New York will have 38 theaters/screens with some caption access: 20 RWC systems, 9 DTS-CSS systems, and 9 Insight Cinema locations. This represents about 30% of these 129 theaters and about 3% of their 1,132 screens.

About 270 RWC caption display systems installed; and 150 DTS-CSS caption projection systems installed by year end.

**2006** New Jersey – Attorney General signed agreement with Regal Cinemas to show movies with DTS-CSS captions at least 8 times a week in 10 of its 12 movie theaters. Regal Cinemas, the largest theater chain in the country, announced commitment to show captioned movies through Insight Cinema and DTS-CSS caption projection systems.

Arizona – Attorney General filed lawsuits against AMC and Harkins movie theaters in Arizona.

About 360 RWC caption display systems installed; and 210 DTS-CSS caption projection systems installed by year end.

**2016-2018** Title III of the ADA updated regarding movie theaters; movie captioning and audio description. This rule update requires movie theaters to: (1) have and maintain the equipment necessary to provide closed movie captioning and audio description at a movie patron's seat whenever showing a digital movie produced, distributed, or otherwise made available with these features; (2) provide notice to the public about the availability of these features; and (3) ensure that theater staff is available to assist patrons with the equipment before, during, and after the showing of a movie with these features. Movie theaters must be compliant by June 2, 2018.

Sources:

National Association for the Deaf

<https://www.nad.org/resources/technology/movie-captioning/captioned-movie-access-advocacy-timeline/>

United State Department of Justice Civil Rights Division, Information and Technical Assistance on the Americans with Disabilities Act.

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